COTTON
AUGUST SERVING THE 1942
Textile Industries

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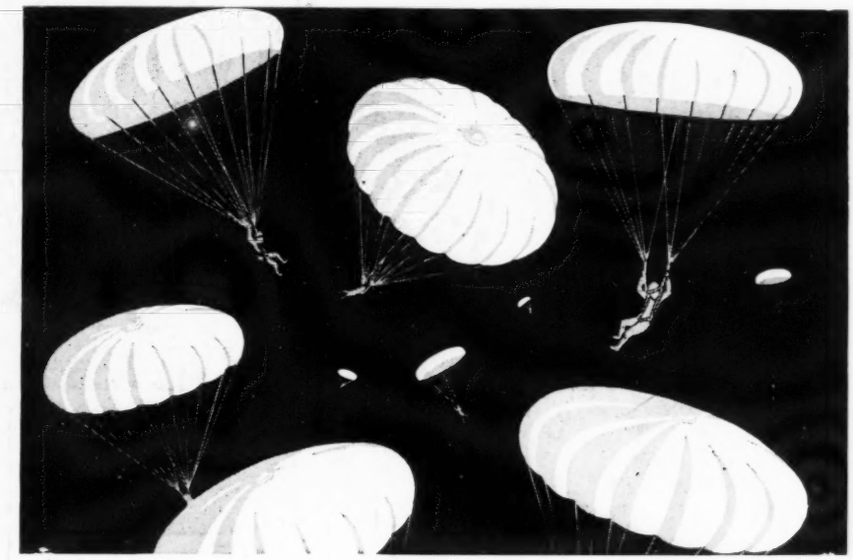
14971

# Disabilities Strike...



like paratroops descending in the night!

Sickness, accidents, trips to the hospital, death of an Employee or a member of his family — these destroyers of income are some of life's emergencies that strike without advance warning!

In hundreds upon hundreds of our nation's leading industries Provident HUMAN SECURITY Plans now safeguard Employees against such income saboteurs.

Let us prove to you the value to Employers and Employees alike in such dependable protection that aids Employees meet emergencies like these →

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- Loss of time due to Sickness or Accident
- Hospitalization or operation when necessary
- Aiding dependents upon death of employee
- Maternity benefits

EMERGENCY INCOME

PROVIDENT
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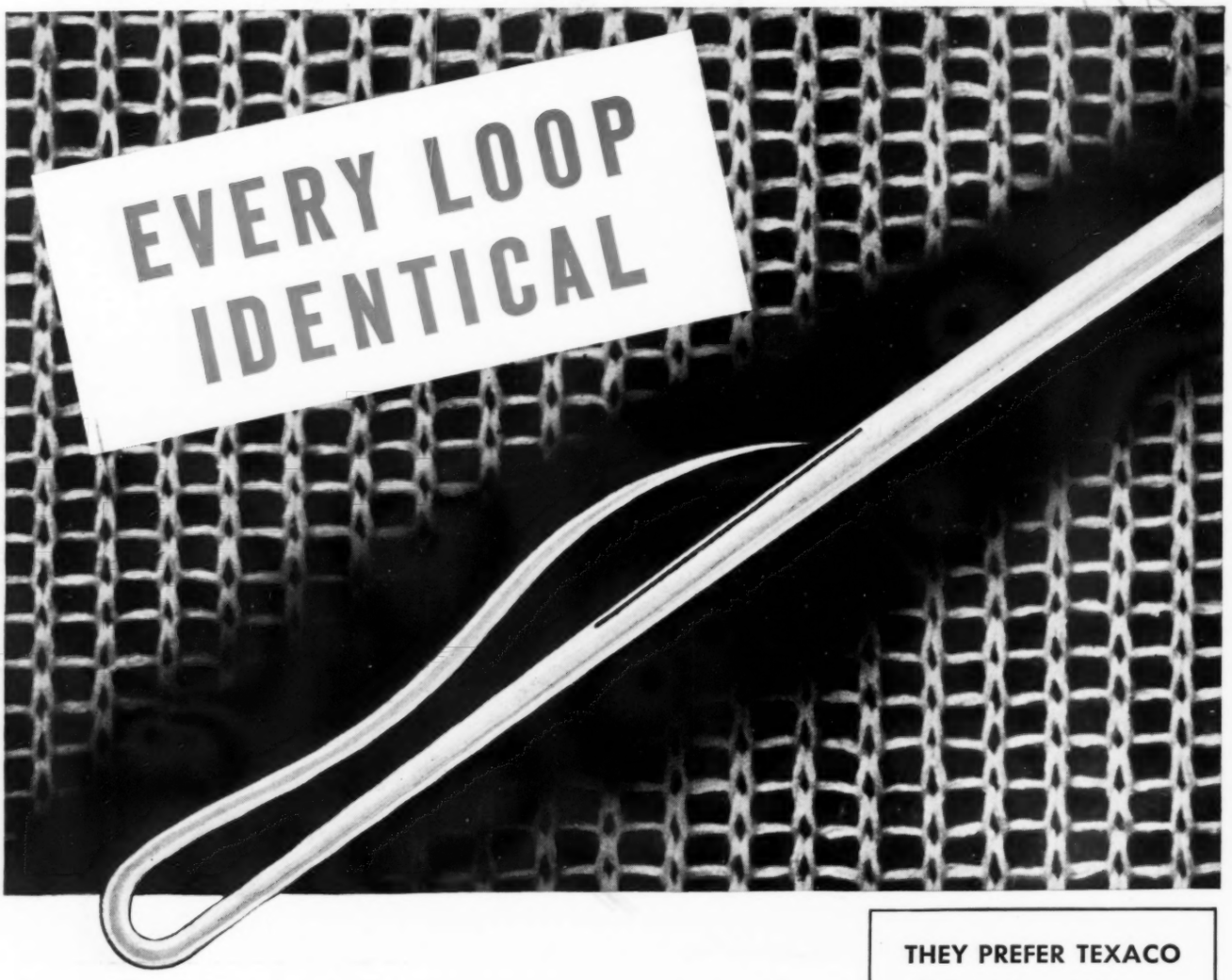
CHATTANOOGA Since 1887 TENNESSEE

★ Specialists in HUMAN SECURITY (Emergency Income) Plans for Over a Half-Century ★




YOUR knitting needles will stay free from rust . . . forming identical loops, course after course . . . when you use *Texaco White Needle Oil B.*

*Texaco White Needle Oil B* provides positive protection against moist air and wetted yarn. It resists oxidation and gum formation, washes out easily, prevents stock spoilage.

The outstanding performance that has made Texaco preferred in the fields listed in the panel has made it preferred by prominent mills in every textile area.

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★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

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**STOPS RUST.** *Texaco Cepheus Oil C* keeps oscillating and rotary bearings free from reddish rust deposits . . . prevents stock spoilage . . . relieves drag and sluggish motion.

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## FOR THE TEXTILE INDUSTRY

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

# Production of Brass Shuttle Eyes Drastically Curtailed for the Duration

This is part of the Wartime Program

Brass is an Absolute Essential in the Manufacture of both Armament and Amunition

## Cast Iron Shuttle Eyes

*Are in Use in Weaving Nearly Every Class of Fabric from the Finest Rayons to Heavy Duck— And Have Been for Many Years*

## You Should be Trying Out These Cast Iron Eyes

*Draper Service Men will Help Pick Out the Eye that is Right for Your Weave*

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To Make Necessary Wartime Substitutions
With the Least Disturbance to Present Mill Practice

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Volume 106. No. 8.

You may be one of the many manufacturers or users of machines and equipment who would like to use a lot of Magnesium Alloy Products, but can't get them. Of course, you know the reason; airplanes and other combat materiel are taking every pound produced.

The properties of Magnesium that make it desirable for your use, its high strength-weight ratio, also make it indispensable for fighting equipment. That's the reason why American Magnesium plants are working day and night to produce more and more of these lightest of lightweight metal products.

When this war is won, there's going to be an abundance of Magnesium for peacetime products. Now's a good time to be thinking, therefore, "Where can we step up the tempo of our operations by using strong, light-weight Mazlo Magnesium Products?" Sales Agent: Aluminum Company of America, 1704 Gulf Building, Pittsburgh, Penna.

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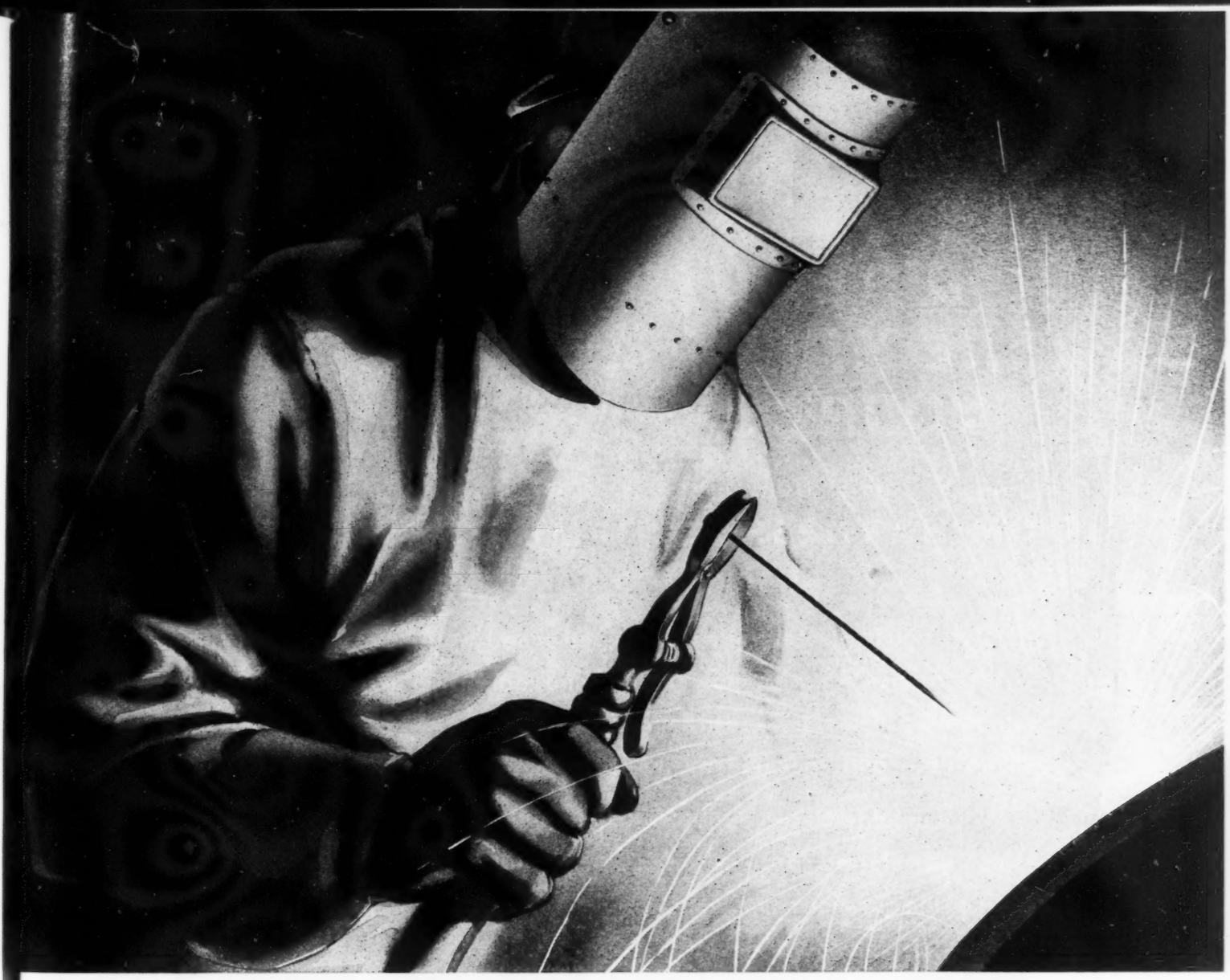

# *Chemical Coatings for* STRONGER WELDS

Welding electrodes are coated with metal oxides and silicates to control the melting rate, to improve arc stability, to exclude oxygen and nitrogen from the arc stream, to reduce splatter and to improve the physical properties of the weld. To a large extent, the chemical coating controls the density and strength of the weld.

Essential element in most welding electrode coatings is Seawater Magnesium Oxide produced by Westvaco Chlorine Products Corporation.

This very-specialized use of Seawater Magnesium Oxide is but one more example of how Westvaco Chemicals are benefiting war production in fields far removed from the chemical industry.

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Wants All-Out, Overtime Production Basis
And here is the SURE WAY to Meet This Urgent EMERGENCY CALL Made by The Government
Sec. 562, P. L. & R.
For Months Our Technical Staff Has Made A Very Thorough Study Of Every Fabric Used In War Time Service
THE HARNESS EQUIPMENT

*It Lists All the Fabrics Used in War Work and the*

## LOOM HARNESS EQUIPMENT

*Needed For Their Economical and Speedy Weaving*

It lists and illustrates the various types of heddles, frames, reeds, combs, shuttles and loom harness accessories used in the weaving of fabrics used and specified by the government.

When unfolded it serves as a wall hanger that can be referred to quickly and conveniently when the question comes up as to what is needed in the weaving of any of the many fabrics.

*A copy will be sent to any one writing for same.*

## RAPID CHANGE OVER TO HEAVIER FABRICS

The confusion, delays and troubles encountered are all done away with provided you are properly advised and equipped.

And it is so simple to leave it to the experience of men who know Loom Harness Equipment and the present day needs and problems.

One of our Field Engineers will gladly work with you to this end without cost or obligation.

# STEEL HEDDLE MFG. CO.

*Manufacturers of Superior*

BRANCH OFFICES ALL OVER THE WORLD

FLAT STEEL HEDDLES—HARNESS FRAMES—ALL TYPES OF LOOM REEDS—TEMPERED DOGWOOD SHUTTLES—LOOM HARNESS ACCESSORIES

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If it will Help YOU
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Automatic Filling Bobbin Winders
for rewound filling offer you
Better loom bobbins • Greater yarn yardage
Increased weave room efficiency and quality
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**WHITIN MACHINE WORKS**

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**POWER TO WIN** depends on power to produce. For development of full designed productive capacity from *TEXTILE MACHINERY* use . . .

**. . . SINCLAIR LILY WHITE OILS.** These oils keep spindle speeds up power loss and temperature down. Sinclair lubricants include *Knitting Machinery* Oils.

*Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.*

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● **LANITOL C W increases the detergent action of soap...and permits rapid and complete rinsing of stock, yarn or cloth.**

● **LANITOL C W is excellent for boiling off or scouring rayon hose prior to dyeing and finishing...including full-fashioned hosiery that is highly contaminated with knitting oil.**

● **LANITOL C W is highly valuable for washing off tops and yarn to remove oil and grease.**

● **LANITOL C W...when added to the final rinse water after scouring woolens...effectively removes all residual soap...leaves the cloth with a pleasing hand free from objectionable odors.**

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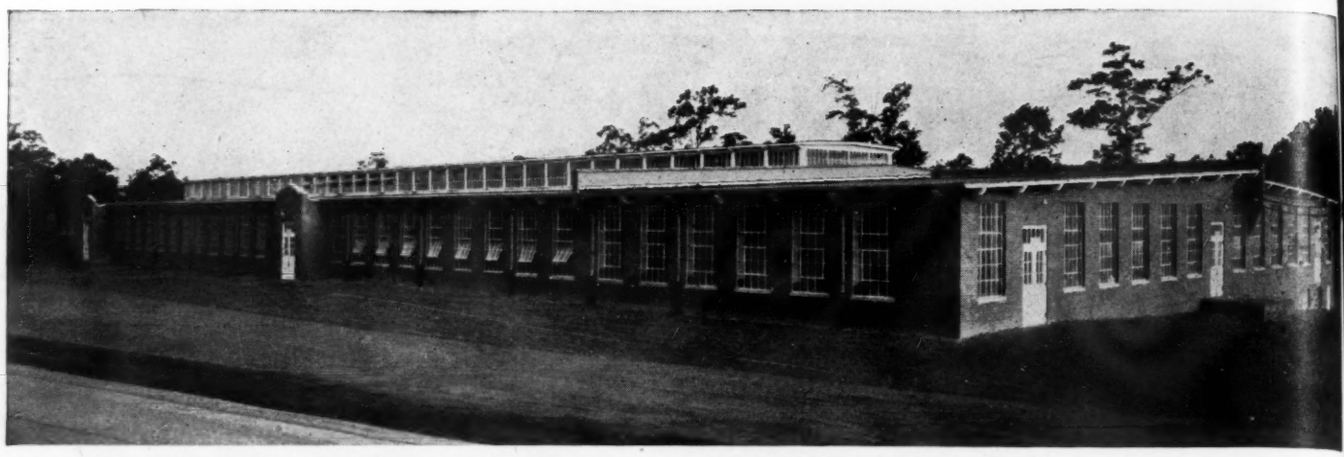
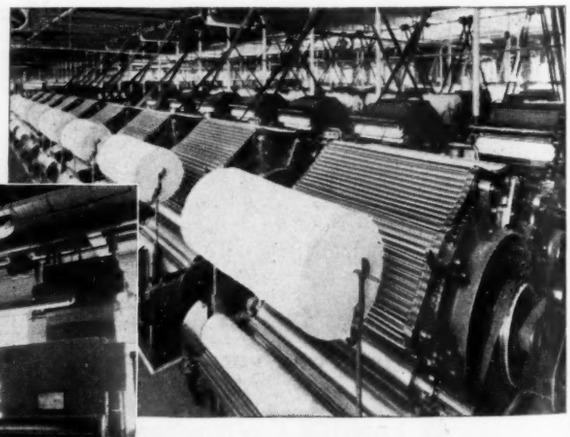


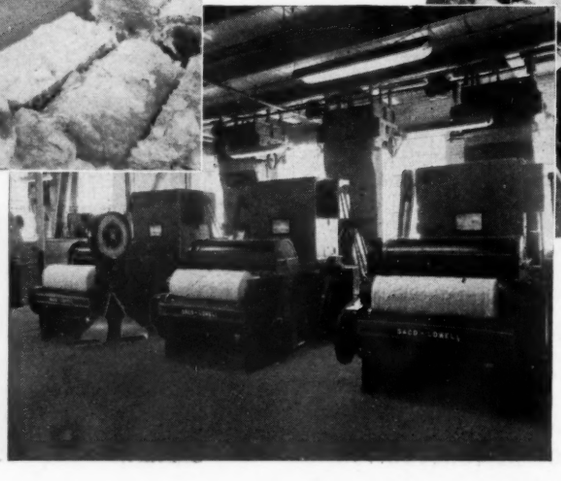
QUAKER MEADOWS MILLS, INC., HILDEBRAN, NORTH CAROLINA . . . MR. BASCOM BLACKWELDER, *PRES.*

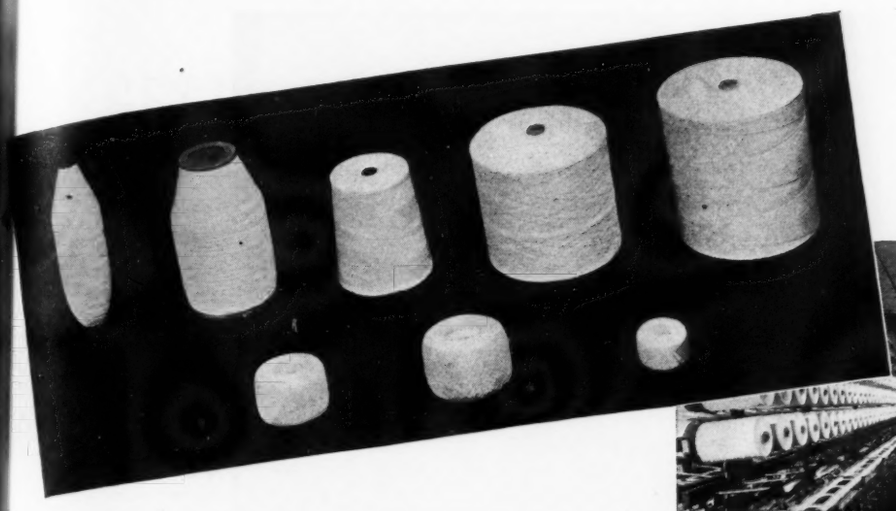
# *Quaker Meadows*

## THE NEWEST COMPLETE SPINNING MILL IN THE UNITED STATES . . .

***will establish higher standards of production and quality for single and ply yarns in coarse counts.***





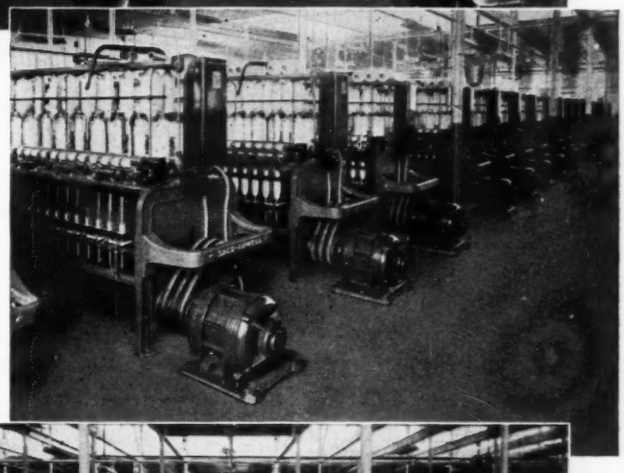


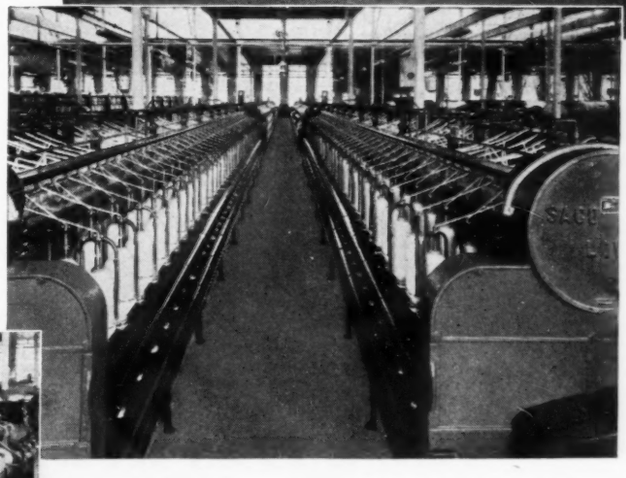
**The production equipment,*** all by Saco-Lowell, combines the experience of the mill's practical executives and the Saco-Lowell engineering staff . . . resulting in an unusually effective routine for efficient coarse yarn manufacture.

From opening through twisting every square foot of floor space has been utilized to achieve the ideal in continuity of production and coordination between successive steps in processing. Emphasis has been given to the reduction of waste, spoilage and useless transportation of stock . . . and to the attainment of low maintenance and operating costs.

Here's an advance showing of the mill of tomorrow . . . a mill to be watched for a demonstration of coarse yarn production using custom-built specialized equipment.

We predict a steady, continuous growth for Quaker Meadows, and extend our congratulations to the management for their courage and foresight in the timely completion of this fine plant.





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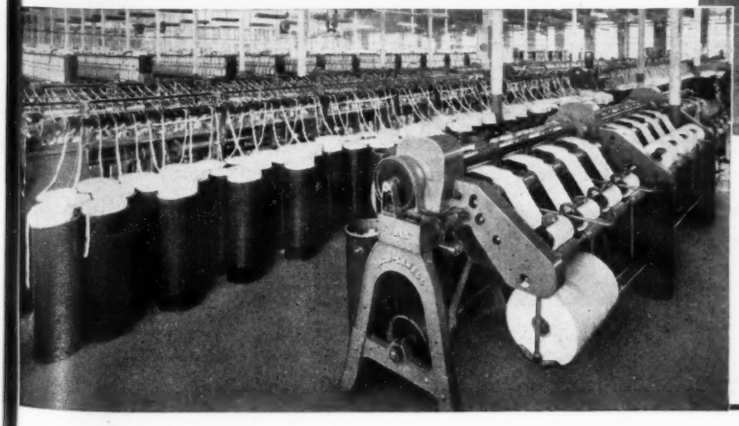

# SACO-LOWELL SHOPS

60 Batterymarch Street, Boston, Massachusetts

*Charlotte, N. C.* *Greenville, S. C.* *Atlanta, Ga.*

**What Happens When a V-Belt Bends**

FIG. 1

FIG. 2

# Here is Simple PROOF *of a* REAL SAVING in BELTS, in RUBBER, in POWER

In two minutes you can prove for yourself a simple fact that will lengthen belt wear and reduce operating costs.

Pick up any V-belt. Bend it as it bends when it goes around its pulley. As the belt bends, grip the sidewalls with your fingers. You will feel the *sides* of the belt *change shape.* If the belt has *straight* sides, the bending will force those sides to bulge out—as shown in Figure 1 (on the left).

Now make this same test with a belt that is built with the patented Concave side. Again you will feel the sides change shape but with this *important difference:*—the Concave side becomes perfectly straight. This belt, when bent, takes a shape that exactly fits its sheave groove. (See Figure 2).

Here are the savings. First—no out-bulge of the sides means uniform sidewall wear—a saving in belts for you, a saving in rubber for the Nation. Second—the full side of the belt uniformly grips the sheave wall. This means heavier loads without slippage—a saving in belt wear and also in power!

Only belts built by Gates are built with the Concave side, a Gates patent.

## THE GATES RUBBER COMPANY

*Engineering Offices and Stocks in All Large Industrial Centers*

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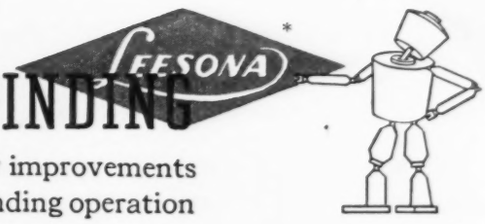
THIS IS NO. 34 OF A SERIES ON

# GETTING THE MOST FROM WINDING

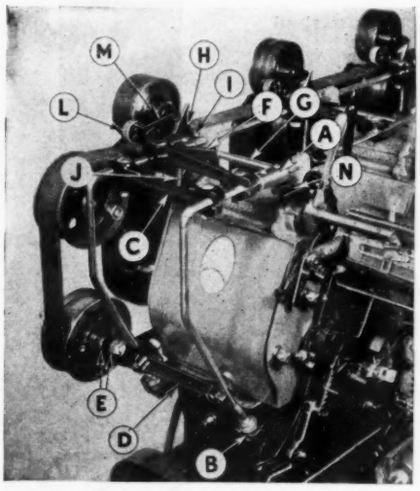



Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

## BELT AND END IDLER PULLEY ALIGNMENT (No. 50 Winder)

When No. 50 Winders are installed properly, it is possible to run the same endless belt for a period of years with a minimum of maintenance. During a recent call on a plant operating many No. 50 Machines, the following points about pulley alignment were brought out that will be helpful to other mills in increasing belt life due to proper alignment of end idler pulleys.

The two main tie rods connecting the frames are used to line and level the machine, but the end sections to which the End Idler Pulleys are fastened, are lined up separately. The method of doing this is as follows:




*No. 50 Belt Drive with Gear Gain*

(1) Attach the end sections of the tie rods to the main sections by means of the Couplings (A).

(2) After tightening the two Couplings, push the lower end of the rods *as far as possible* into the slots (B) in the bed; with the fingers, adjust the nuts to the approximate position. A level across the end tie rods will help get a better setting before tightening the nuts at B.

(3) Mount the Top End Idler Pulley Bracket (C). Tighten, first, the end near the pulley; the slot at that end is a finished surface and should locate properly the other end of the Bracket. Then tighten the far end.

(4) Mount the Lower End Idler Pulley Bracket (D). This, too, has a finished slot at the end near the pulley, so that should be tightened first. This Bracket is also equipped with washers (E); by adjusting these washers, the pulley can be brought into line with the Top End Idler Pulley.

(5) Now install the belt and start the motor to see if the belt runs around the end pulleys without touching the flanges. It may be necessary to perform any of the following adjustments to make the belt run true:

a. If the belt rubs against either flange of the upper pulley, move the outer end of the Pulley Bracket slightly along the tie rod. This can be done by slightly loosening both nuts and tapping the outer end of the Bracket to improve the alignment; then tighten the outer end of the Bracket first.

b. It may not be possible to eliminate the rubbing against the flanges until the lower pulley is also adjusted by moving the outer end up or down on the tie rod.

c. It may be necessary to raise or lower the tie rods by adjusting the nuts at B.

d. To correct a slight twist in the Lower Pulley Bracket, one of the tie rods may be brought forward in the slot at B.

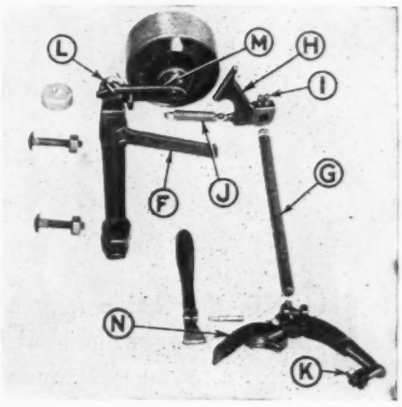
e. When the tie rods are brought forward in the slot, it is important to maintain the level of the Upper Bracket.

After adjusting the lower pulley, it may be necessary to make another slight adjustment of the Upper Pulley Bracket until the belt runs true.

If these adjustments are properly made, it should not be necessary to make any further adjustments for many months. If at any time the belt should rub continuously against one flange, the settings described above should be checked again.

## ADJUSTMENT OF SPINDLE IDLER PULLEYS

Each Spindle Idler Pulley should be carefully positioned, as follows, for both operative and inoperative positions:




a. The Spindle Idler Pulley Bracket is attached to the tie rod by tightening first the end near the pulley, then the outer end. The Bracket is properly located on the tie rod when the Spacer (F) touches the Lifter Rod (G). However, if an extra-thick belt is used, the Pulley Bracket may have to be located further away from the Lifter Rod.

b. With the belt running, the Idler Pulley should be raised by the Lifter (H) so that it just clears the belt. The two screws (I) will tip the Lifter in the desired direction and lock the setting.

c. When the starting handle is pressed to start the spindle, the Lifter Rod (G) is turned, moving the Lifter (H) away from the Pulley. Tension is applied to the spring (J), and the Lifter is held in this position by the Locking Point (K) at Dog Segment.

d. The coil spring (L) in the Lifter Arm Adjuster causes the pulley to be pressed onto the driving belt. Enough tension should be applied to hold the pulley on the belt without bouncing, so the coil spring (L) should keep the Idler Pulley Arm (M) in contact with the Lifter at all times. However, if the spring is too tight, it will retard the stopping of the Spindle and application of the Brake (N).

*See our Catalog in TEXTILE YEARBOOK*

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

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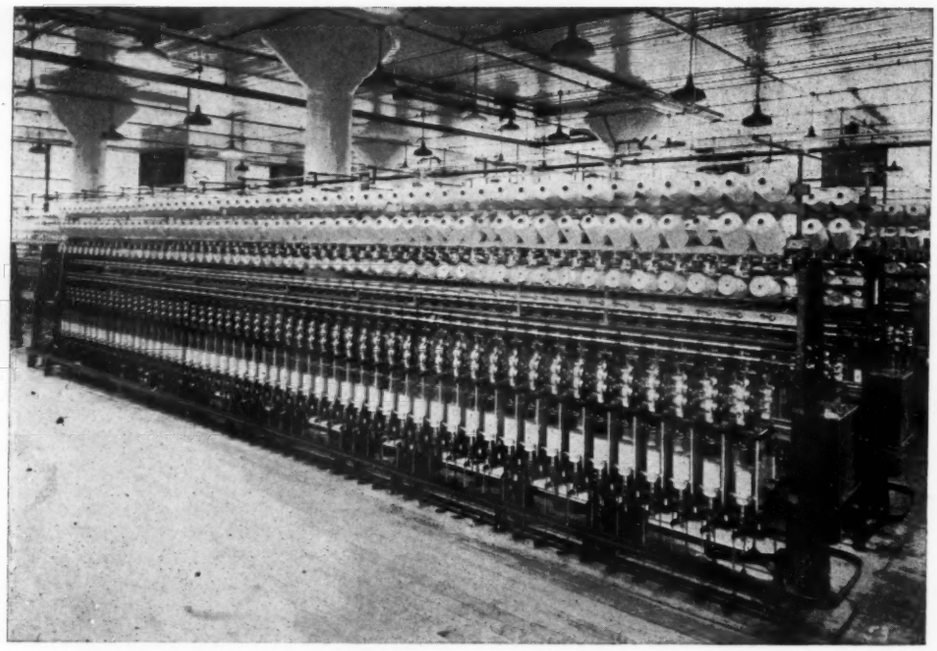
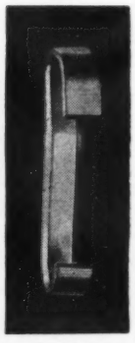


# 400 Million Pounds

IN 1920, the textile mills of the United States used nine and a half million pounds of rayon. In 1941, the figure had jumped to 586 million pounds; in 1942, total rayon mill consumption will run well over 600 million pounds, with over 3,500 textile mills sharing this tremendous volume.

Development of specialized twisters and other machinery for handling rayon production has paced this swift growth. Specially built ring travelers, equally important in the assurance of smooth, uniformly twisted yarn and perfect packages, have also been developed.



It takes perfectly *designed* travelers, tough travelers—and lots of them—to handle this annual volume of rayon yarn with ease and efficiency. U. S. Ring Travelers fill the bill—precision-made, tough and durable, delicately balanced and rigidly inspected for exact uniformity of size and weight.

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PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Pres. and Treas.

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## UNIVERSAL RING

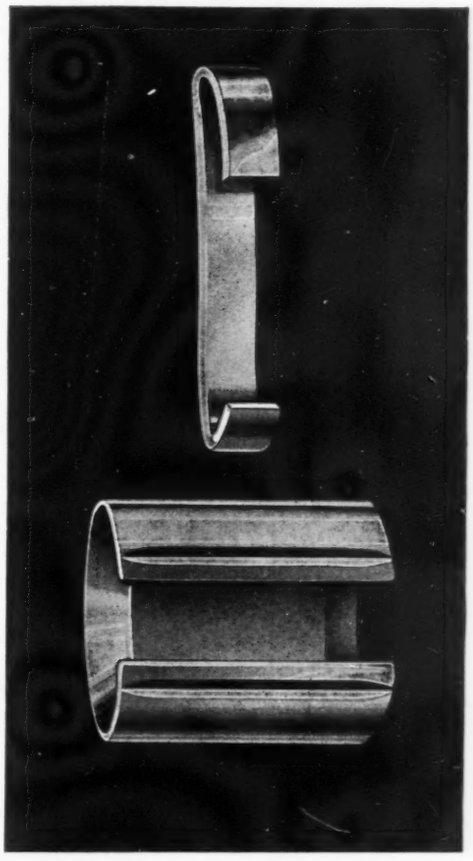
BOWEN ROUND POINT TRAVELERS
BOWEN SQUARE POINT TRAVELERS
BOWEN IMPROVED VERTICAL BRONZE
BOWEN PATENTED BEVEL EDGE
BOWEN PATENTED NE-BOW VERTICAL
BOWEN PATENTED VERTICAL OFFSET
BOWEN FLAT OVAL AND ROUND WIRE TRAVELERS

# ...of Rayon Takes a Lot of Travelers and a Lot of Traveling!

Sealed metal containers guarantee that your U. S. Travelers will reach you in perfect condition, with no tampering or loss in count.

The NE-BOW PATENTED VERTICAL RING TRAVELER (shown at top in illustration) has been specially developed to meet the particular needs of the silk and rayon trade in the throwing process.

The Bowen Patented Bevel Edge feature produces ideally smooth, even yarn, and prevents split ends in throwing. By eliminating pivoting action, this traveler is kept constantly in close contact with lubricating device and assists in distributing the lubricant evenly over the entire inner surface of ring, prolonging life of both ring and traveler and promoting a more even twist.



***"A Traveler for Every Fibre"***

# STANDARD TRAVELERS

# FEWER BREAKDOWNS NOW...

## OF MACHINES EQUIPPED WITH THESE...

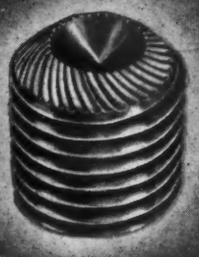
UNBRAKO

REG. U. S. PAT. OFF.

***SELF-LOCKING HOLLOW SET SCREWS***

Just use "Unbrako" Self-Lockers and time wasting breakdowns and maintenance are avoided because the knurled points dig in and refuse to let go regardless of vibration. Yet if adjustments are necessary, they can be removed in a jiffy . . . and you can use them again and again. Insure against trouble—investigate and use "Unbrako" Self-Locking Set Screws.

*Knurling of Socket Screws originated with "Unbrako" years ago.*



Send for our complete "Unbrako" Catalog.

**STANDARD PRESSED STEEL** · BOX [redacted] JENKINTOWN · PENNA.

BRANCHES: BOSTON, DETROIT, INDIANAPOLIS, CHICAGO, ST. LOUIS, SAN FRANCISCO

## "TWO lives?" "Sure...Research Leather Belting outlasts Rubber V-Belts on 'Production Drive' 2 to 1"

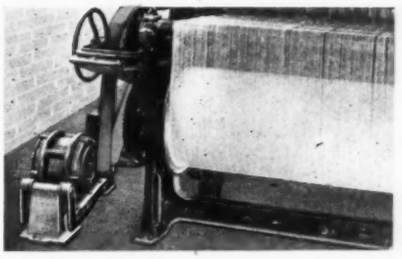
"How do you figure?"

"Look it up in *Fifty Reports on Mechanical Power Transmission from Motor Drive to Industry* by Robert Drake. Says a first-quality leather belt on pivoted motor drive outlasts a rubber V-belt *two or more* times!"

"But why *Research* Leather Belting?"

"Because it hugs pulleys without slip. Because excessive stretch has been removed in manufacturing. Because it rides small pulleys with minimum flexing wear.

***Result: less tension, less maintenance, longer life."***



Research Leather Belting on Pivoted Motor Base Drive (Production Drive)

GRATON & KNIGHT

**GRATON & KNIGHT CO. Worcester, Massachusetts**

*Graton & Knight also manufactures* The Orange Line *of textile products made from G&K's own "American-tanned" Hairy Leather. Distributors listed on G&K page in* THOMAS' REGISTER

Product Quality need not Suffer
—if you use tough
SHELL TEXTILIS OILS
QUALITY textile products are more vital than ever today... production must be rushed. But it isn't necessary to sacrifice product quality for speed. Shell Textilis Oils, designed specifically for each type of textile-machine lubrication, will help you get maximum production at maximum speed.
• • •
Call in your Shell man today. Let him show you how to get top performance out of your machines, cut down on delays, and still maintain the high quality of your products.
SHELL

# *If He Changes to Khaki He'll Still be A Customer*

For thirty years Master 'Teen has been an important market for vivid Franklin Process Colors. If the time comes when he has to change to khaki, he'll still be a customer, for right now we are dyeing immense quantities of military colors.

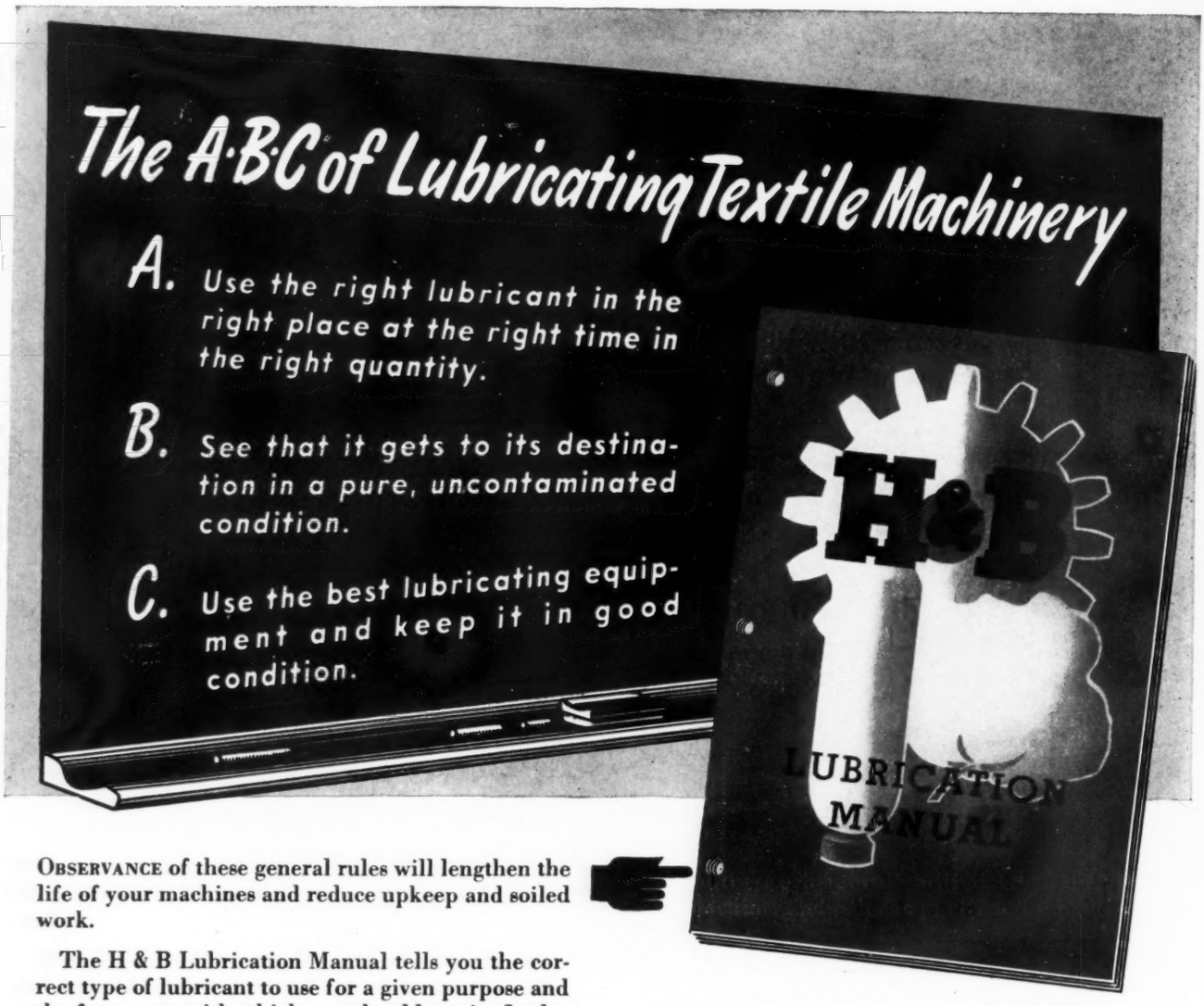
The advantages of Franklin Process Yarn Dyeing, in terms of defense, are as follows:

1. It eliminates waiting for yarns to be spun from dyed stock.
2. Having large stocks of natural yarn in all four plants and unequalled package dyeing capacity, it can make prompt deliveries.
3. Having adequate twisting and winding equipment, it can deliver special as well as standard constructions on any usual put-up.

Franklin Process

**LARGEST PACKAGE DYERS IN THE WORLD**

★ Providence, Philadelphia, Greenville, Chattanooga; New York Rep., 40 Worth Street; Chicago Rep., 100 W. Monroe Street.


The A·B·C of Lubricating Textile Machinery
A. Use the right lubricant in the right place at the right time in the right quantity.
B. See that it gets to its destination in a pure, uncontaminated condition.
C. Use the best lubricating equipment and keep it in good condition.
H&B
LUBRICATION MANUAL

OBSERVANCE of these general rules will lengthen the life of your machines and reduce upkeep and soiled work.

The H & B Lubrication Manual tells you the correct type of lubricant to use for a given purpose and the frequency with which you should use it. It also suggests small quantities of lubricant at frequent intervals rather than large quantities at infrequent intervals, to avoid waste, soiling of work and dry bearings.

A separate, isolated room for lubricants, with all containers clearly marked, and ONE responsible person in charge; clean oil holes, cups and pressure fittings before introducing lubricants; place nozzle of squirt can on inside of oil hole or cup before lubricant is ejected and wipe free on inside of hole before removing;—these are other recommendations.

As to lubricating equipment, an adjustable oil can which will regulate the amount per shot down to one drop is preferable. The size of the nozzle should be adapted to the fluidity of the lubricant and the lubricating equipment should be kept clean and in good working order.

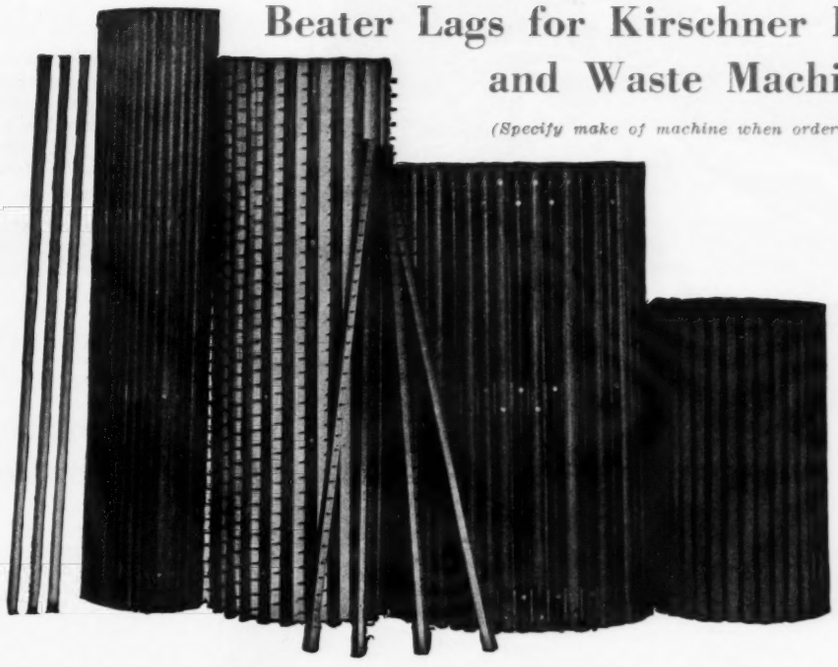
★ ★ ★

The suggestions herewith are only highlights from the H & B Lubricating Manual. Send for a copy of the complete treatise to get the full story. It means money in your pocket.

**H & B AMERICAN**
**TEXTILE MILL MACHINERY**
*Boston Office:* 161 Devonshire Street; *Atlanta Office:* 815 Citizens & Southern National Bank Building.

**MACHINE COMPANY**
**PLANT AT PAWTUCKET, R. I.**
*Charlotte Office:* 1201-3 Johnston Building; *Export Department:* United States Machinery Co., 115 Broad Street, New York, U. S. A.

# TEXTILE SERVICE



## Beater Lags for Kirschner Beaters and Waste Machines

*(Specify make of machine when ordering)*

# PICKER APRONS

Picker Aprons, as made by F. C. Todd, Inc., are of the finest materials, assembled by skilled workmen, assuring dependable day-in and day-out performance without expensive stops for adjustments and repairs.

These Aprons, because of their unequalled quality, are now standard equipment in textile mills throughout the country.

Available in both spiked and slat types for all makes of pickers, openers, breakers — waste machines and garnet machines.

*We also make aprons for all makes conditioning machines.*

*We Carry Parts for*

PICKERS
✦
CARDS
✦
LAP MACHINES
✦
COMBERS
✦
DRAWING
✦
SLUBBERS AND ROVING

SPINNING
✦
TWISTING
✦
WINDING
WARPING
SPOOLING
✦
BOBBINS
✦
SPOOLS
✦
SKEWERS

*Quality and Service Our Motto.*

*Liquidations* F. C. TODD, Pres. & Treas. *Appraisals*

# F. C. TODD INCORPORATED

TEXTILE MACHINERY AND SUPPLIES

**GASTONIA, N. C.**

FEN Water Repellent is a one-bath treatment for stain and water repellency. Fast, sure, economical. Mixes easily, disperses completely throughout the bath. Easily applied on quetsch, padder, jig, beck, starch mangle or continuous process machine . . . followed by drying at an elevated temperature.

# Get these facts . . .

Learn about a water-repellent and stain-resisting finish that is *five ways better* than other products of the same nature. Study the results of impartial tests comparing FEN Water Repellent with ordinary water repellents. See how FEN produced 15% to 29% greater water repellency. Read about savings up to 50% over the cost of using other products of the same nature. Check the proof of increased fabric life shown in the tests for abrasion and tensile strength. Notice how easily FEN is put into solution . . . does not separate out on standing like other products tested. Find out how FEN meets the specifications for a water-repellent finish set down by the U. S. Army Quartermaster Corps. Get this folder now. Ask for "Take a Lesson from the Mermaid." AMALGAMATED CHEMICAL CORP., Phila., Pa.

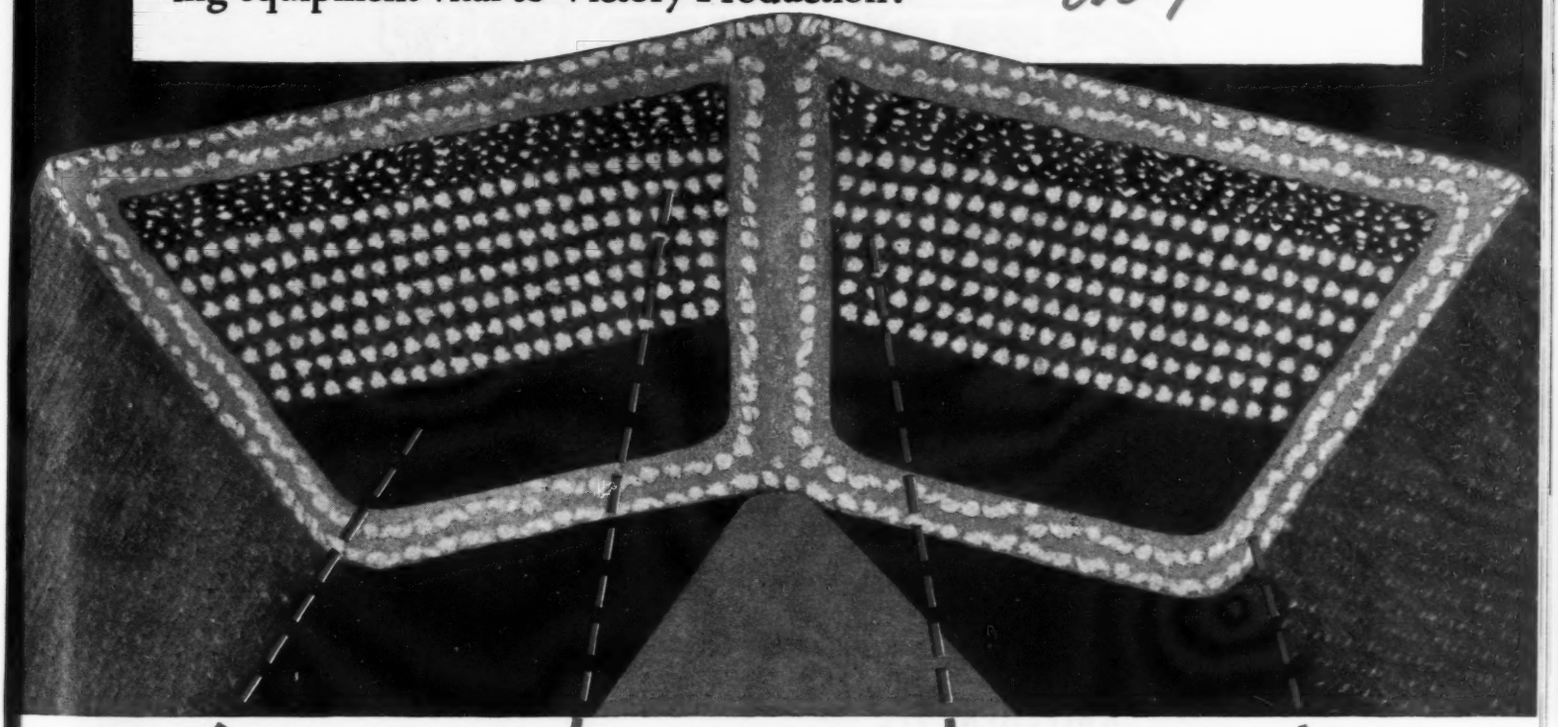
Southern Representative: Robt. A. Bruce
P. O. Box 35 Greensboro, North Carolina

**FEN**
**WATER REPELLENT**

# Open Book on WARTIME CARE OF V-Belts

**Texrope Super-7's new Design-Against-Wear points to ways *You* can make V-Belts last longer — whatever brand you now use — saving equipment vital to Victory Production!**

*V-Day needs every V-Belt*



### Design-against-heat...

Texrope Super-7's revolutionary new shock-absorbing cushion contributes to cool operation.

**You** can fight friction and heat by preventing misalignment. When present, it subjects V-belts to rubbing on the side... builds up heat. So keep grooves in line — shafts parallel.

### Design-against-stretch

Texrope Super-7's 50% stronger cords produced by the new Flexon process combat stretching — plus the slip and burning that might result.

**You** can fight stretch — no matter what make of V-belts you are using — by promptly taking up any extra slack that may develop. Inspect drives regularly!

### Design-against-breaks

The 20% more cords built into the new Texrope Super-7 combat strains.

**You** can fight breaks by requiring that your V-belts never be pried into grooves — nor rolled from one groove to the next. Before installing or removing V-belts, the motor always should be moved forward.

### Design-against-dirt...

The new Duplex-Sealed cover safeguards Texrope Super-7 against grit, grime and moisture.

**You** can fight dirt by seeing that your V-belts are wiped off as frequently as conditions require. Never permit dressings to be used on your V-belts. Remember, oil is poison to rubber!

A 1542

# ALLIS-CHALMERS

WE WORK FOR VICTORY — WE PLAN FOR PEACE

## TEXROPE* SUPER-7 V-BELTS

*Trade mark registered U. S. Patent Office. Texrope Super-7 V-Belts are the result of the cooperative research and design genius of two great companies — Allis-Chalmers and B. F. Goodrich — and are sold exclusively by Allis-Chalmers. Available in all sizes.....½ h.p. to 2,000 h.p.

**RODA** — High grade gas, by-product and steam coal from Wise County, Va., on the Interstate Railroad.

**DENDRON** — High grade gas, by-product, steam and domestic coal from Wise County, Va., on the Interstate Railroad.

**STONEGA** — High grade, high volatile steam and by-product coal from Wise County, Va., on the Interstate Railroad.

**PREMIX** — A laboratory controlled product blended to meet exacting stoker requirements. From Wise County, Va., on the Interstate Railroad.

**COKE** — Roda and Stonega from Wise County, Va., and Connellsville Coke from Pennsylvania.

**CRITERION COAL** — High grade gas, by-product, steam and domestic coal—Pittsburgh seam from Irwin Basin, Westmoreland County, Pennsylvania, on the Penna. Railroad.

**CROZER** — Genuine Third Vein Pocahontas from McDowell County, W. Va., on the Norfolk & Western Railroad.

**Admiralty Coal** — Genuine New River Smokeless, Beckley or Sewell seam from Raleigh County, W. Va., C. & O. and Virginian Railroads.

**Old Kentucky** — Hazard No. 4 and No. 7 steam and domestic coal from Wiscoal, Knott County, Kentucky, on the L. & N. Railroad.

**GENCO** — Steam and domestic coals from a number of producing districts.

**ANTHRACITE** — Premium and standard qualities in the entire range of Anthracite burning characteristics.

Capable engineering personnel and the experience gained through long and varied marketing activity assures proper application of one of the above brands and effective servicing of any fuel requirement.

# General Coal Company

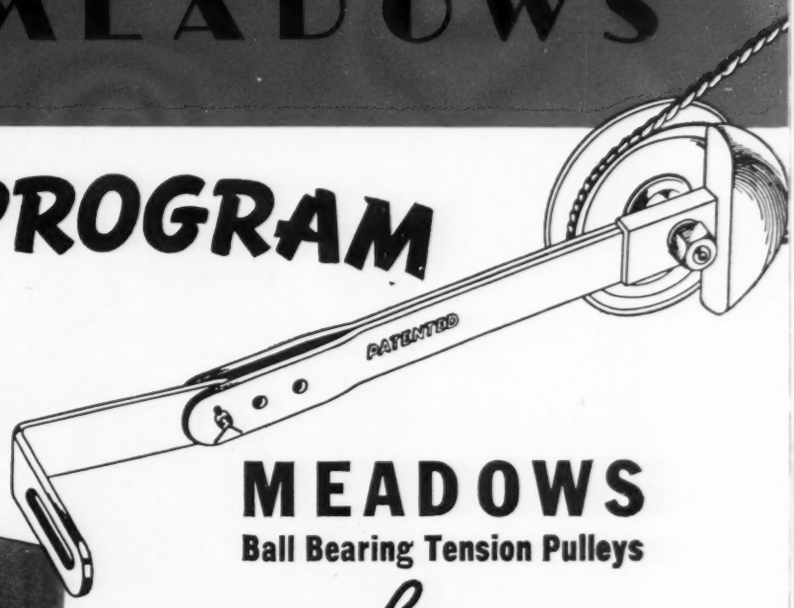
**123 SOUTH BROAD STREET . . . . . PHILADELPHIA, PA.**

*Branches*

| | | |
|---|---|---|
| BLUEFIELD, W. VA. | CHARLESTON | NEW YORK |
| BOSTON | CHARLOTTE, N. C. | NORFOLK |
| BUFFALO | CINCINNATI | PITTSBURGH |
| | DETROIT | |

# M-R-C and MEADOWS

## for the WAR PROGRAM




## MEADOWS
**Ball Bearing Tension Pulleys**

*for*

1. *Uniform spindle speed.*
2. *Uniform twist at all times.*
3. *No band slippage and no slack yarn.*
4. *No damp weather, dry weather, or Monday morning band trouble.*
5. *Once-a-year lubrication.*

*Equipped exclusively with*

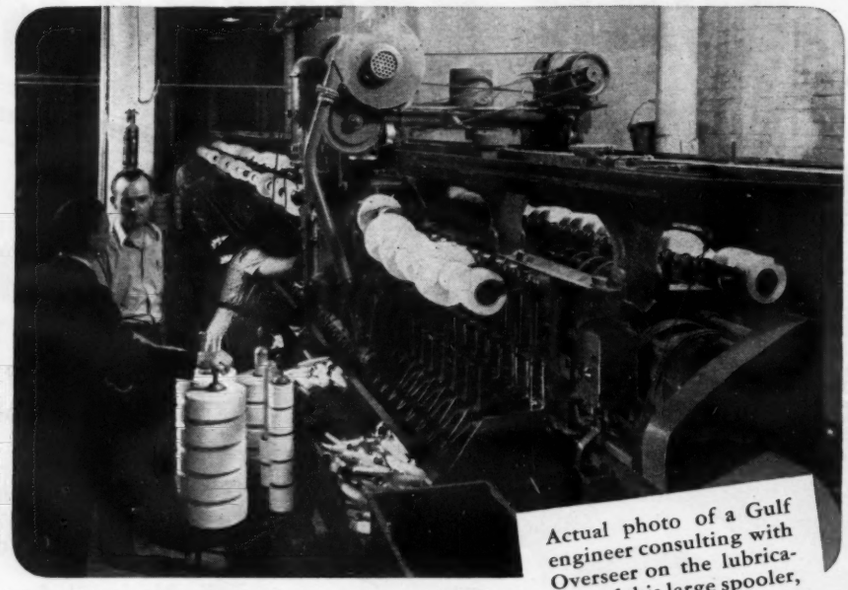
**M-R-C LUBRI-SEAL BALL BEARINGS**

*—helping more than half a million spindles meet government specifications.*

Write for complete information to:
MEADOWS MFG. CO., P. O. Box 4354, Atlanta, Ga.

# M-R-C BALL BEARINGS

**MARLIN - ROCKWELL CORPORATION**
Executive Offices: JAMESTOWN, N. Y.



Actual photo of a Gulf engineer consulting with Overseer on the lubrication of this large spooler, one of the very few spoolers of its size in the country.

# "A shutdown of this spooler would mean a closed mill — so we use Gulf Quality Lubricants"

SAYS OVERSEER

**"GULF OILS AND GREASES KEEP THE KNOTTER HEAD AND OTHER VITAL PARTS IN PERFECT CONDITION"—**

"OUR warpers are supplied by this one big spooler, so we can't take any chances on its lubrication," says this Overseer. "That is why we have standardized on the oils and greases recommended by a Gulf engineer. These quality lubricants keep the knotter head and other vital parts in perfect condition."

Here's the reason why so many mill men rely on Gulf quality oils and greases to protect their equipment against excessive wear, breakdowns and mechanical troubles: Gulf lubricants have *greater stability* and *endurance!* They stand up and provide a tough, long-lasting film of highest lubricating value even under severe operating conditions.

Let a Gulf engineer demonstrate to you—in your mill—how Gulf lubricants provide an extra margin of protection to your equipment—and help you secure uninterrupted production.

Gulf quality lubricants are quickly available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write or 'phone your nearest Gulf office today.

GULF OIL CORPORATION
GULF BUILDING

GULF INDUSTRIAL LUBRICATION

GULF REFINING COMPANY
PITTSBURGH, PA.

*OIL IS AMMUNITION — — USE IT WISELY!*

# THE *Gilmer* NATIONAL POWER-RECOVERY PLAN

***". . . we are glad to express our appreciation of your efforts in this direction," says WPB***

## INDIVIDUAL POWER-RECOVERY ESTIMATORS MAKE POWER-SAVING SIMPLE AND SYSTEMATIC . . . . .

Developed to help Industry convert power-waste into war production, the Gilmer National Power-Recovery Plan provides useful Power-Recovery Estimators . . . practical power-saving charts for each of these services —Electricity, Steam, Mechanical Transmission, Water, Compressed Air, Refrigeration, Boilers, and Prime Movers.

Compiled by leading power engineers, the Estimators are full of technically-sound suggestions, to help make power-saving a simple routine. In your hands, the Estimators cannot fail to produce results beneficial both to your plant and to your Country.

Take full advantage of the Power-Recovery Plan . . . use it to get the necessary executive support, then put it to work in your plant! Completely packaged in a special Booklet, it comes without cost or obligation. Write to Gilmer at once!

**L. H. GILMER COMPANY • Tacony, Philadelphia, Pa.**
***The Oldest Firm of Rubber Fabric Belt Specialists***

Authorities on power engineering estimate that, if Industry adopts the Power-Recovery Plan, the resultant power-saving will equal the combined output of two Boulder Dams!

# PICKER REPAIR PARTS WHEN YOU NEED THEM

WE keep on hand a very complete stock of all parts for Kitson pickers, and can usually ship the same day an order is received. We also can furnish beaters, ball bearings, screens and many other parts for other makes of pickers.

Under wartime conditions, it is of the utmost importance to keep machines running constantly and to be able to get prompt delivery on repair parts for keeping them running constantly.

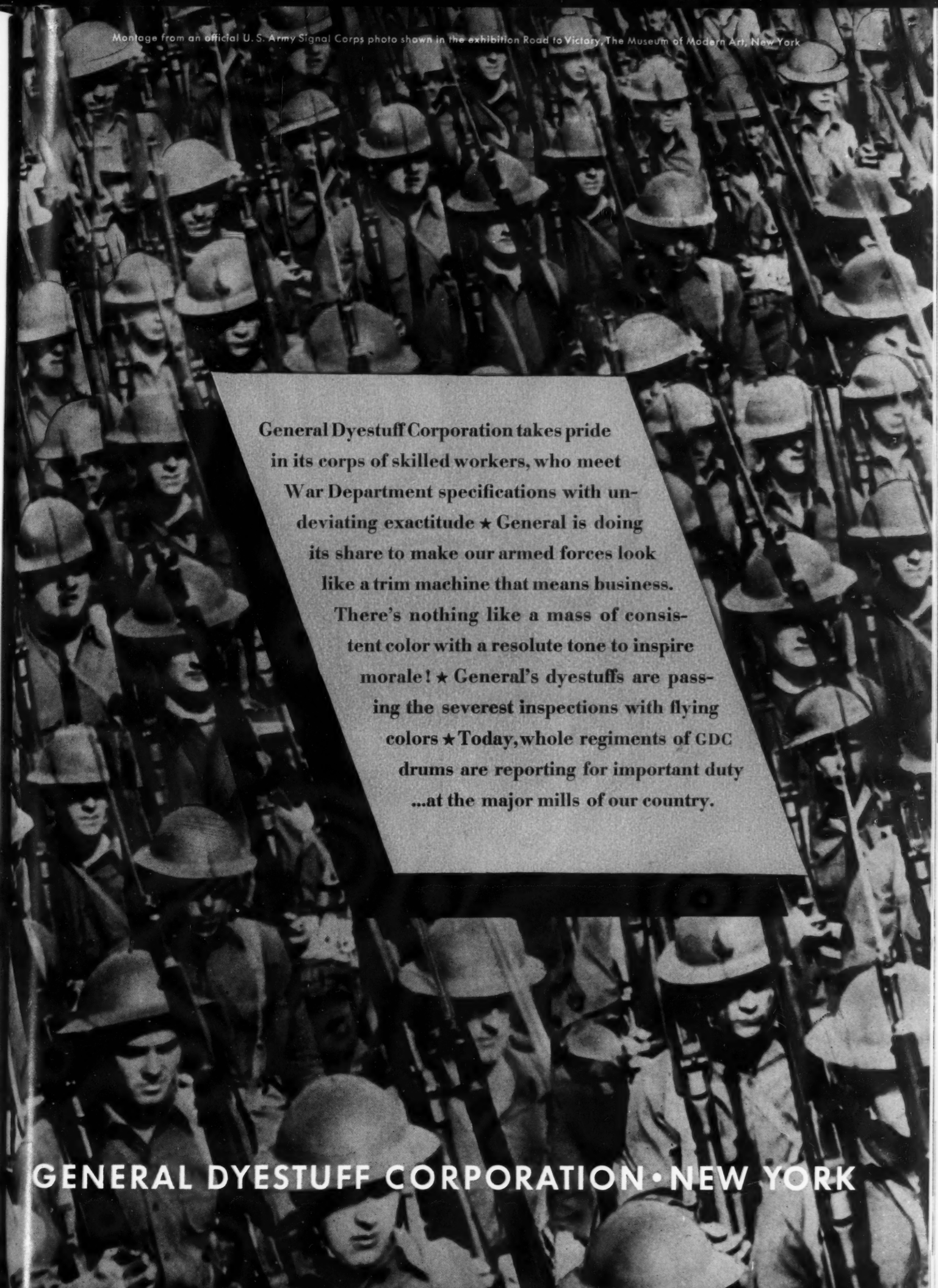
In an emergency, a telegram or a telephone call will have the necessary repair parts at your plant the following day.

It is also a good idea to check your stock room and order picker parts on which the stock is low or is exhausted.

We can completely rebuild your pickers exactly like new, and when pickers are practically worn out and in need of more than ordinary repair parts, they can be completely renewed at far less than the cost of new machines with new frames.

**AldricH MachinE WorkS**

Greenwood, South Carolina



Montage from an official U. S. Army Signal Corps photo shown in the exhibition Road to Victory, The Museum of Modern Art, New York

General Dyestuff Corporation takes pride in its corps of skilled workers, who meet War Department specifications with undeviating exactitude ★ General is doing its share to make our armed forces look like a trim machine that means business. There's nothing like a mass of consistent color with a resolute tone to inspire morale! ★ General's dyestuffs are passing the severest inspections with flying colors ★ Today, whole regiments of GDC drums are reporting for important duty ...at the major mills of our country.

GENERAL DYESTUFF CORPORATION • NEW YORK

# RESEARCH faces the emergency

From the laboratories have come our strongest weapons with which to fight the problems of raw material shortages. In textiles, as in other fields, the intensive research of the last few years has armed us for today's emergency with tested new materials to supplement the old.

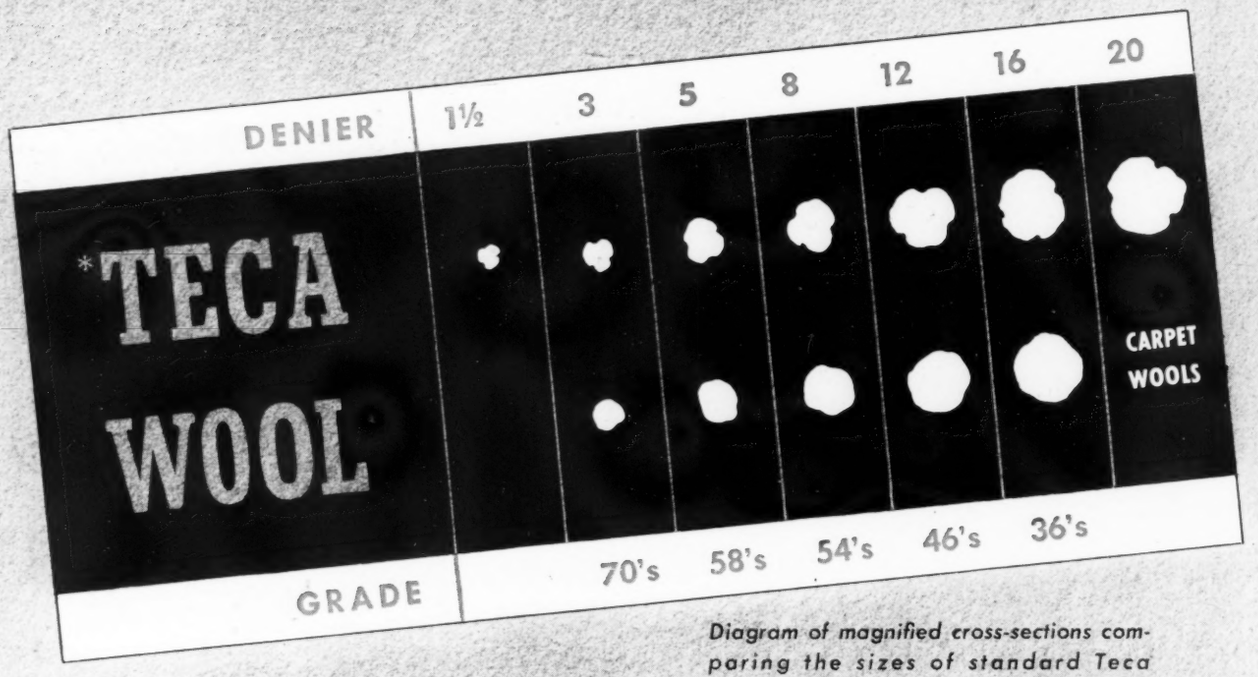



*Diagram of magnified cross-sections comparing the sizes of standard Teca fibers with the sizes of commercial wools.*

Teca, Eastman crimped acetate rayon staple, is now more than ever in demand, not only for classic spun rayon weaves, but for the entire range of constructions formerly achieved with wool. Teca's crimp makes for warmth and resilience, lively resistance to crushing and sagging. And Teca is a versatile fiber . . . it can be spun in an almost unlimited range of sizes. Not a substitute . . . not a compromise . . . but a real technical achievement.

## *EASTMAN CRIMPED ACETATE RAYON

For further information about Teca and its uses, consult the A. M. Tenney Associates, Inc., 10 East 40th Street, New York City, sales representatives for the Tennessee Eastman Corporation, subsidiary of the Eastman Kodak Company.

# ✓MORE PRODUCTION,
# ✓CLEANER GOODS
## WITH
## STA-PUT TREATED OILS

Sta-Put Lubricants are treated to make them leak resistant, to increase their film strength, to make them "stay put" and last longer.

That's why one drum of Sta-Put may last longer than two drums of ordinary mineral oil, when used on looms, comb boxes, lineshafting and other needed places in your mill.

You eliminate messy dripping from your hangers or machine parts; you put an end to oil-spotted cloth; you get a greater oiliness and keep the oil at work preventing costly friction and wear.

All these advantages you obtain when you specify Sta-Put Lubricants for your plant.

Let the Houghton Man survey your needs and recommend the proper grade for your mill requirements, and you'll use "Less Oil, Less Often."

**E. F. HOUGHTON & CO.**
303 W. Lehigh Ave., Philadelphia, Pa.
1301-05 W. Morehead St., Charlotte, N. C

**HOUGHTON**
**PRODUCTS FOR THE TEXTILE INDUSTRY**

# *ARALAC

**The perfect protein fibre for blended fabrics**

Converters, manufacturers, retailers—all have an exciting new promotion story to tell this season. The story of ARALAC—the first American man-made protein fibre.

ARALAC, made from milk, is News! For its very existence has so far been purposely kept from the general public.

ARALAC'S versatility is News . . . for not only is it the perfect blending fibre for dress fabrics, knit wear, and coatings—but because of its warmth and resilience, ARALAC is already in great demand for interlinings, chair cushion filler, pillows, and a variety of other products.

Finally, ARALAC's performance is News . . . for the hand, the dry warmth, and the resilience which ARALAC gives to a fabric create a ready acceptance by the buying public.

Capitalize on these facts during this Fall season.

★ ★ ★

**A SALUTE to the Mills!**
Your efforts have made this possible

★ ★ ★

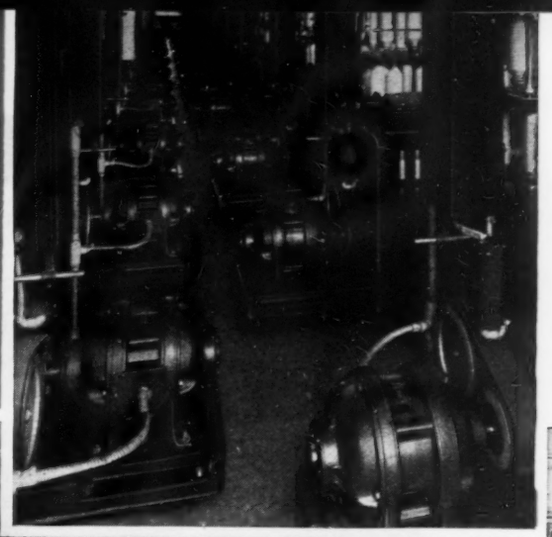
**ARALAC, INC.**
Sales Office, 230 Park Ave., New York City
*Trade Mark Reg. U. S. Pat. Off.

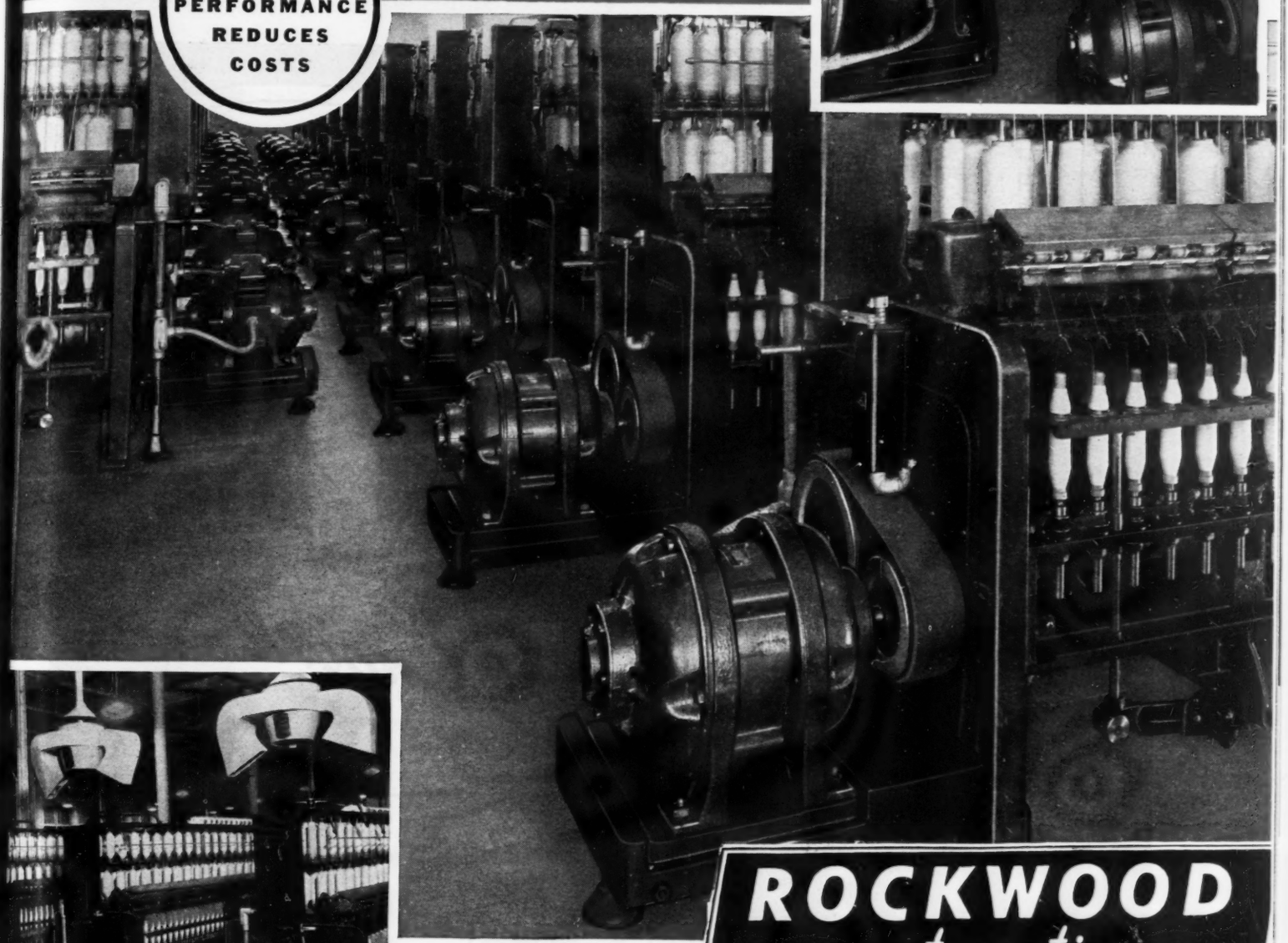
ARALAC produced by a division of National Dairy Products Corporation, represents but one of the many contributions this nation-wide organization is making toward the more efficient utilization of America's agricultural resources.

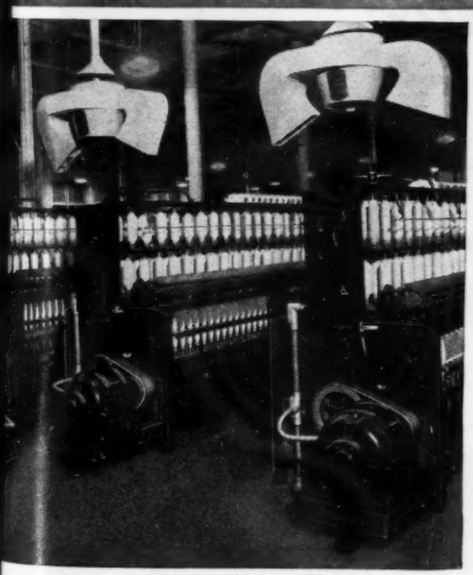
# LEADING COTTON MILLS EVERYWHERE USE ROCKWOOD DRIVES

for more production better quality

IMPROVES MACHINE PERFORMANCE REDUCES COSTS







*Typical of the way big mills are using Rockwood Drives are these pictures taken in mill of the American Spinning Company. The bases are shown in red only to emphasize their neat and well designed appearance when installed.*

## ROCKWOOD *automatic belt tightening* MOTOR BASES

Nearly all leading cotton mills include Rockwood Drives when they modernize for more production and a better quality of work.

Cotton mill engineers know Rockwood Drives assure maximum production and better quality from spinning or twister frames because they drive the cylinders at maximum uniform speeds.

They bring a new and accurate control of machine speeds that will surprise you. IF YOU WANT MAXIMUM OUTPUT AND MORE DEPENDABLE MACHINE OPERATION INSTALL ROCKWOOD pivoted-motor DRIVES.

We have helped other mills to increase production and improve the quality of work and can do as much for you. *Call in your nearby Rockwood dealer or write us for a Rockwood engineer to call.*

**ROCKWOOD MANUFACTURING CO., INDIANAPOLIS, IND.**

...FOR Maximum
TYCOL
Engineered
TEXTILE
LUBRICANTS

# *Production* AT ALL POINTS

## with maximum protection against wear and machine breakdown

To maintain today's record-breaking production in every phase of textile mill operation, the hard-working machines must be guarded against friction and time-consuming repairs by providing efficient, dependable lubrication. Hundreds of textile plants have found the successful solution to former lubrication problems in Tide Water's engineered Textile Lubricants.

Tycol Textile Oils and Greases have proved their reliability by many years service in wool, cotton, silk and rayon manufacture. From power plant to finishing they promote maximum production and trouble-free machine operation. Tide Water Steam Cylinder Oils and Turbine Oils have improved performance on prime movers throughout industry. Tide Water Green Cast Greases guard bearings against failure because they hold their body – don't break down or thin out quickly. On spindles, looms, and tentering frames Tycol's specialized Textile lubricants have made possible many exceptional records of economy and continuously trouble-free operation.

Call a Tide Water engineer. He'll be glad to study your problem and recommend the proper Tide Water lubricant engineered to meet your particular need and thus assure maximum production at minimum yardage cost. Our informative booklet "Principles of Textile Mill Lubrication" contains many helpful suggestions. Write for full details to Tide Water Associated Oil Company, 17 Battery Place, New York, N. Y.

**DRUMS!** **War needs make it extremely important that all empty drums be returned immediately.**

INDUSTRIAL TYCOL OILS-GREASES

# TIDE WATER
## ASSOCIATED OIL COMPANY
EASTERN DIVISION
17 BATTERY PLACE, NEW YORK
Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

OIL IS AMMUNITION
USE IT WISELY !

**MAKERS OF THE FAMOUS VEEDOL MOTOR OIL**

# 4 Reasons Why Leading Textile Mills Standardize on the

# *Modern Quality Leather Belting and The "Production Drive"*

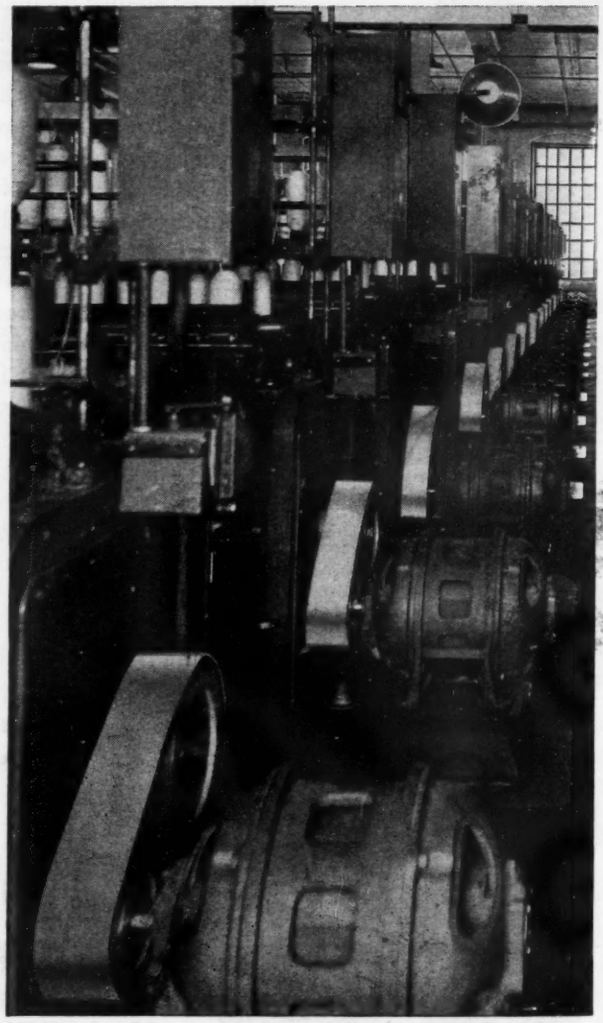
1. It is easily demonstrated that the Modern Quality Leather Belting has the greatest pulling power of any known belting material — thus it cuts operating costs.

2. The production drive keeps the belt at the exact tension required by the load every second the machine is in motion.

   This produces a more uniform product, free from imperfections.

3. This steady belt pull is not only easier on machine bearings and general upkeep but on the operator's nerves as well.

4. Management saves in every way —better product—less machine upkeep—longer belt life—operator satisfaction and greater output per machine.



**AMERICAN LEATHER BELTING ASSOCIATION**
**53 PARK ROW, NEW YORK, N.Y.**

AMERICAN LEATHER BELTING ASSOCIATION — GRIPS LIKE A HAND — RELY ON THE GRIP OF LEATHER — PULLS LIKE A TRACTOR

**IT PAYS TO**

# *Rely on Leather Belting*

## . . Because it's fit for fighting, too

All-out war is taking more and more of the huge Westinghouse Small Motor production. For airplanes . . . tanks . . . fighting ships . . . gunfire control . . . all use motors and generators made by the same Small Motor Division that normally is devoted to making motors for such industrial applications as pumps, compressors, machine tools . . . and looms.

As a result, Westinghouse Loom Motors will be fewer in number in 1942. However, those that are available are finer than ever. Precision manufacturing methods, more exacting specifications and more rigid inspections have boosted Westinghouse standards to a new high in the industry.

As always, Westinghouse representatives will be glad to consult with you at any time about your loom motor problems, and supply you with such motors as the increased war program permits us to make available to you. Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., Dept. 7-N.

J-03161

# Westinghouse Loom Motors

# THEY'RE TOUGH... THESE 125 lb. GATE VALVES

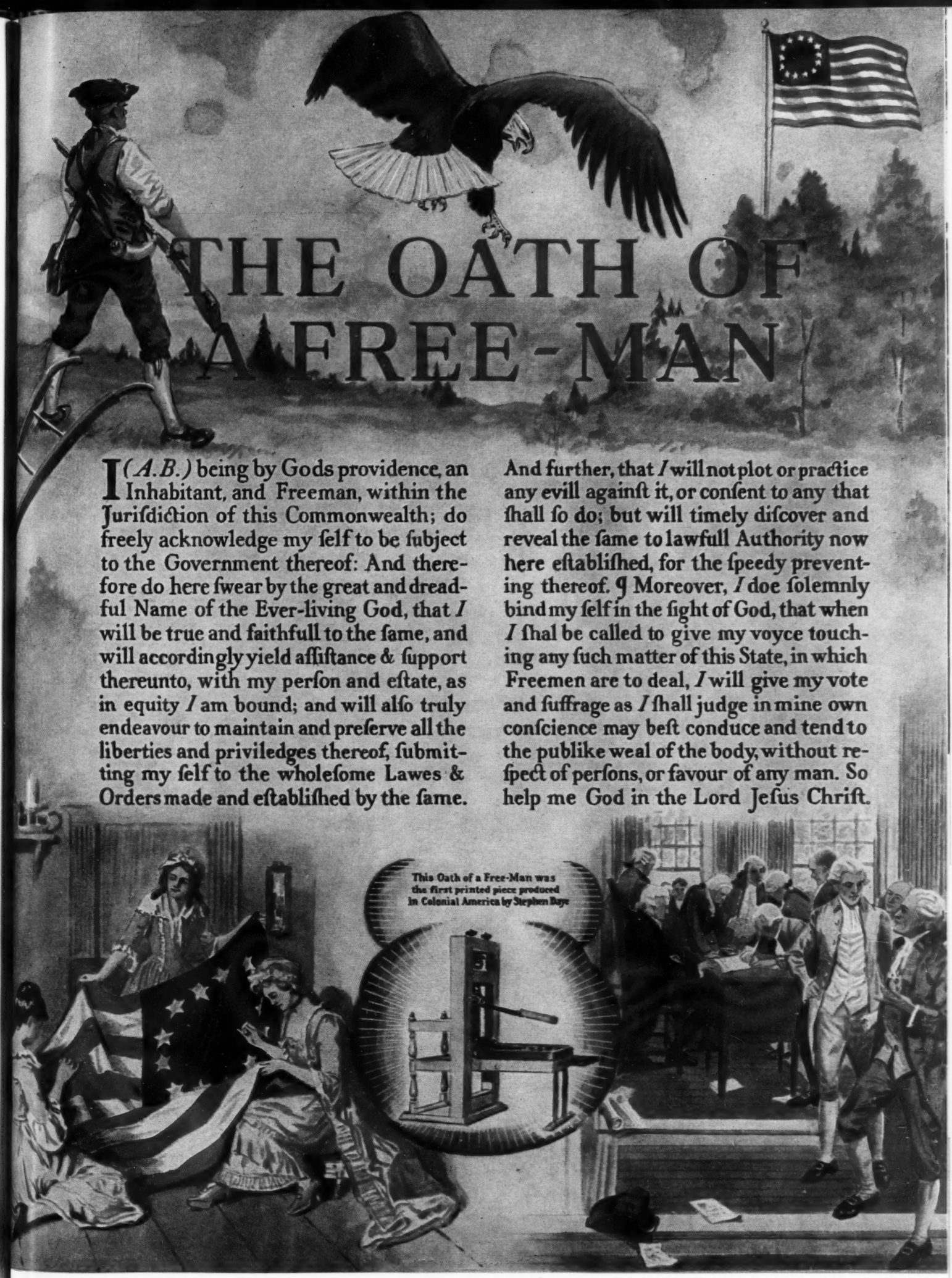
And they're proving it in countless plants in all industries. The extra strength built into these tough bronze valves comes in good stead in meeting the severe demands of continuous operation. Now more than ever they are proving to their users that it pays in the end to buy good valves first.

Figs. 2125 and 2129 are outstanding examples of the ruggedness and dependability that are inherent qualities in all Lunkenheimer products.

ESTABLISHED 1862
THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO. U. S. A.
NEW YORK CHICAGO
BOSTON PHILADELPHIA
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

Since virtually all materials used in the manufacture of valves are on the list of critical materials, valve users are urged to furnish the highest possible preference ratings and proper "end use" Allocation Classification Symbols on their orders. This will be of mutual helpfulness.

## LUNKENHEIMER VALVES



# THE OATH OF A FREE-MAN

I *(A.B.)* being by Gods providence, an Inhabitant, and Freeman, within the Juriſdiction of this Commonwealth; do freely acknowledge my ſelf to be ſubject to the Government thereof: And therefore do here ſwear by the great and dreadful Name of the Ever-living God, that *I* will be true and faithfull to the ſame, and will accordingly yield affiſtance & ſupport thereunto, with my perſon and eſtate, as in equity *I* am bound; and will alſo truly endeavour to maintain and preſerve all the liberties and priviledges thereof, ſubmitting my ſelf to the wholeſome Lawes & Orders made and eſtabliſhed by the ſame. And further, that *I* will not plot or practice any evill againſt it, or conſent to any that ſhall ſo do; but will timely diſcover and reveal the ſame to lawfull Authority now here eſtabliſhed, for the ſpeedy preventing thereof. ¶ Moreover, *I* doe ſolemnly bind my ſelf in the ſight of God, that when *I* ſhal be called to give my voyce touching any ſuch matter of this State, in which Freemen are to deal, *I* will give my vote and ſuffrage as *I* ſhall judge in mine own conſcience may beſt conduce and tend to the publike weal of the body, without reſpect of perſons, or favour of any man. So help me God in the Lord Jeſus Chriſt.

This Oath of a Free-Man was the first printed piece produced in Colonial America by Stephen Daye

THE LOUIS ALLIS CO., MILWAUKEE, WIS.

LOUIS ALLIS

# *Making Good Machinery Better!*

For over 40 years we have been developing special motors for special jobs — working with the designing engineers of many of the nation's leading machinery manufacturers — helping make good machinery better.

No matter what your electric motor problem or requirement may be, we invite your inquiry — and assure you that your needs will receive our prompt and careful attention in every way.

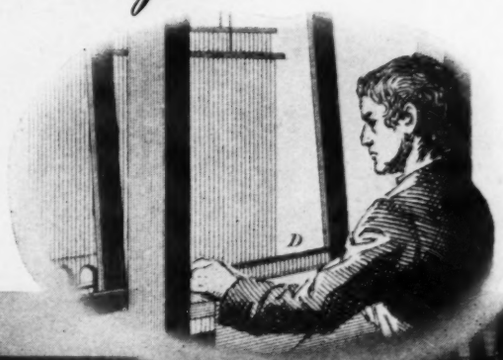
*The motor illustrated is our TOTALLY ENCLOSED FAN COOLED Dust Proof motor — which is available in a wide range of electrical and mechanical modifications.*

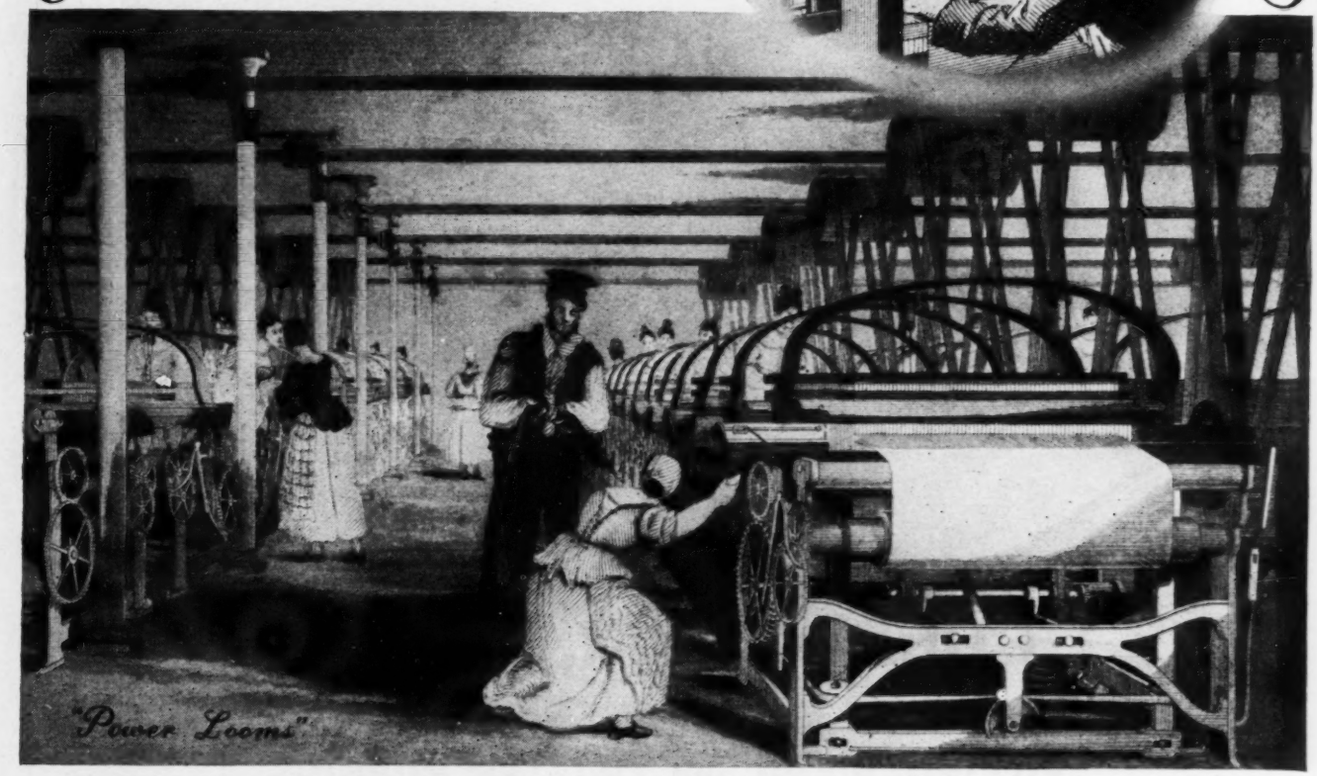
**THE LOUIS ALLIS CO., MILWAUKEE, WISCONSIN**

BUY WAR BONDS — BUY THEM REGULARLY.

# *Weavers Didn't Know Their Own Strength!*

*In hand-weaving, there could be no control over the force used by the weaver in striking the lay against the cloth. As the weaver's force varied from stroke to stroke, so did the count and thickness of the cloth produced. Uniformity was unknown.*






This condition changed when the Reverend Dr. Edmund Cartwright invented the power loom in 1787. It took a minister, who had never even seen a loom in operation, to give the world an entirely new concept of weaving possibilities. As each operation became more mechanical and *continuous*, variables of the hand loom operation were decreased.

For the first time, every stroke of the lay was made with equal force. Cloth production was speeded up, and fabric of uniform count and thickness was obtained. Here is yet another illustration of *continuous* movement increasing the efficiency and quality of textile manufacture.

Just as the power loom eliminated variations in weaving, so the "Continuous Process," the contribution of Industrial Rayon engineers to textile progress, eliminates variations in rayon yarn—giving a new concept of rayon uniformity.

In one *continuous* thread, SPUN-LO rayon yarn is spun, washed, bleached, treated, dried and twisted. Result—a yarn, uniform in strength, lustre and denier, virtually free from knots and broken filaments.

To weavers, these qualities mean increased operating efficiency—more important today than ever before.

**"CONTINUOUS PROCESS"** Spun-lo Rayon
Reg. U. S. Pat. Off.

**INDUSTRIAL RAYON CORPORATION • Cleveland, Ohio—New York Office, 500 Fifth Avenue**

*Photo by Ewing Galloway*

# BOBBINTOWN, U. S. A.

## Bowen-Hunter CARD ROOM — AUTOMATIC LOOM FILLING, WARP and TWISTER BOBBINS

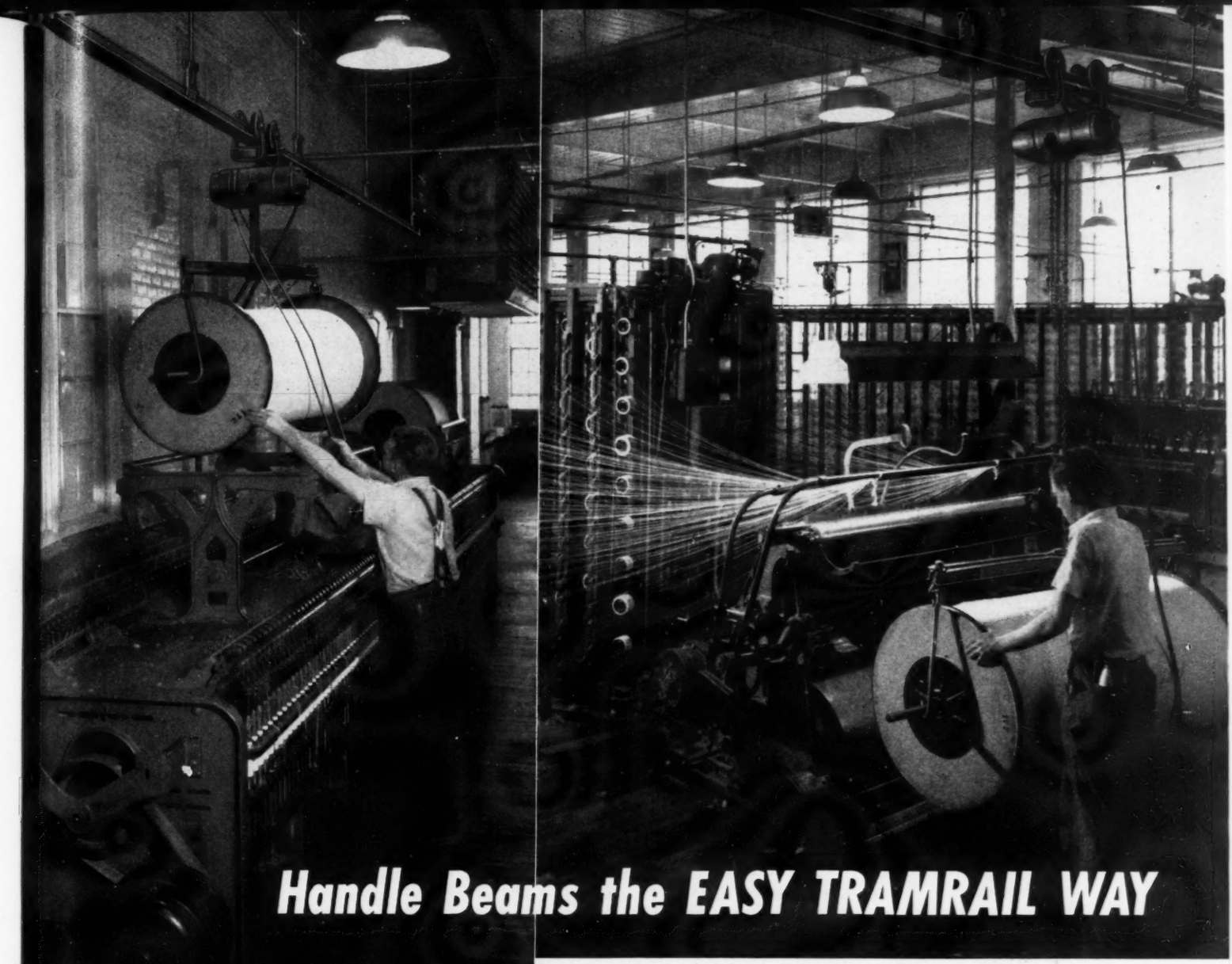
*Made in the Heart of the Rock Maple Country of Vermont.*
*Used by progressive mills throughout the country.*

# BOWEN-HUNTER BOBBIN CO.

## EAST CORINTH, VERMONT

*SOUTHERN REPRESENTATIVES:*

THE McLEOD COMPANIES, GREENSBORO, N. C., AND GREENVILLE, S. C.



# Handle Beams the EASY TRAMRAIL WAY

Heavy beams are easily handled with a simple Cleveland Tramrail overhead materials handling system. An electric hoist does the heavy lifting and the smooth-rolling carrier transports the beams by a light push of the hand.

The overhead system in this important South Carolina cotton mill not only serves the warpers and twisting frame, but is also used in the beam storage and for handling beams at the slashers.

Tramrail equipment has proven to be far more convenient than the hand-pushed floor dollies formerly used. It is especially desirable for lifting beams in and out of the machines and is an important factor in improving safety. It has brought about a considerable savings of time.

This Cleveland Tramrail system is surprisingly low in cost. Since it is designed for moderate service, no costly electrical equipment is employed. The hoist is provided with a cord and plug for connecting to power outlets that have been conveniently placed wherever use of the hoist is required.

*You do not have to shut down the mill to install a simple Cleveland Tramrail system as illustrated. There is no expensive electrical work; only a few outlets are needed where hoist is to be used.*

*GET THIS BOOK!*

BOOKLET No. 2008 . . Packed with valuable information. Profusely illustrated. Write for free copy on your company letterhead.

**CLEVELAND TRAMRAIL DIVISION**
THE CLEVELAND CRANE & ENGINEERING CO.
1175 EAST 283RD ST. WICKLIFFE, OHIO.

MANUFACTURERS OF • CLEVELAND CRANES • CLEVELAND TRAMRAIL • STEELWELD BENDING PRESSES

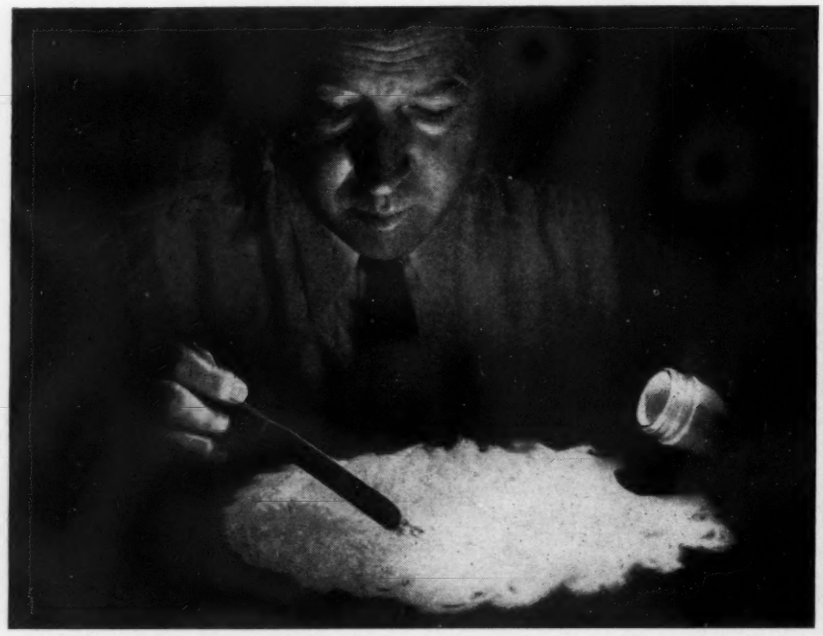
**CLEVELAND TRAMRAIL**

**OVERHEAD MATERIALS HANDLING EQUIPMENT**

# Why G-E Fluorescent Lamps "stay brighter longer"

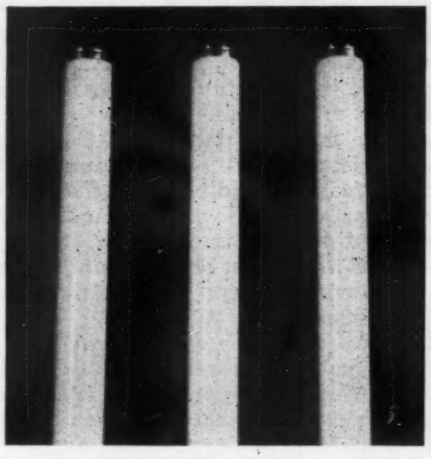
**A PICTURE STORY THAT'S WORTH READING.** You want as much light for your money as you can get... to help speed war production, reduce waste, and avoid accidents.

Here are just a few of the reasons G-E MAZDA F lamps are better today than ever before—why they give such dependable service—why they stay brighter longer.



**1 DR. W. A. ROBERTS OF G-E LAMP DEVELOPMENT LABORATORY,** is studying the synthetic phosphors used in coating G-E MAZDA Fluorescent lamps to make them *stay brighter longer.* Up to June 1, General Electric had put approximately 450,000 man-hours of research into Fluorescent lamp improvements with the objective of giving the user more and more light for less and less cost.

**2 A TINY DROP OF MERCURY** like this is accurately measured and safely injected into G-E MAZDA F lamps by an automatic machine specially designed by G-E engineers. Results: lower cost and improved operation.



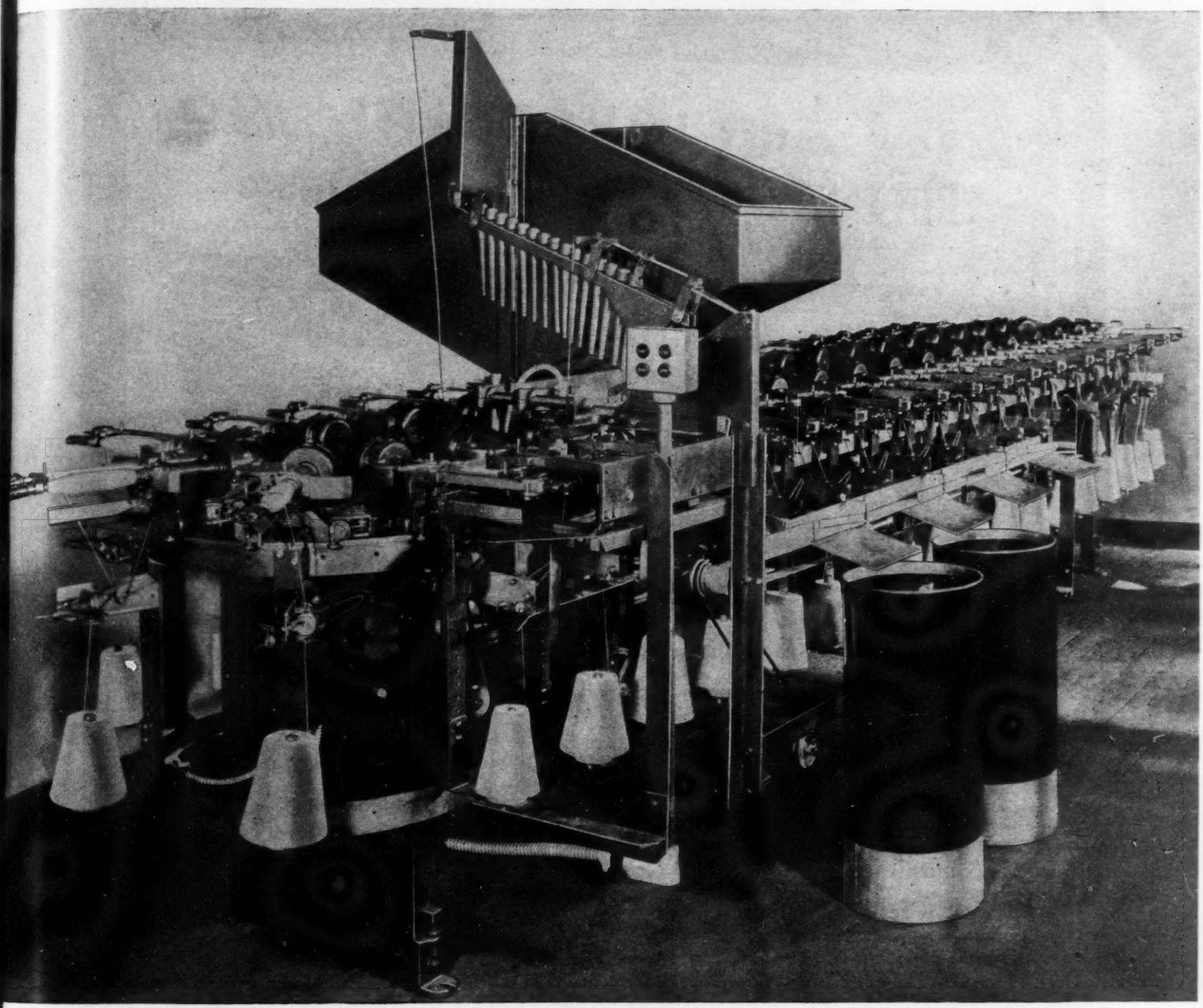
**3 UNRETOUCHED PHOTO** of 3 40-watt G-E MAZDA F lamps. One is brand new, second has burned 2030 hours, third has burned 2650 hours (150 hours over rated life). Note absence of end-blackening.

**4 GREATER COLOR UNIFORMITY** is assured when controlled and checked by "electric eyes" with color filters . . . one of many routine checks in General Electric's Fluorescent lamp factories.

**5 WHEN YOU BUY** fluorescent lamps, look for the G-E monogram. It means they *stay brighter longer.* For best results it is advisable that you always use certified lighting equipment.

G-E MAZDA LAMPS GENERAL ELECTRIC

# AUTOMATIC LOOM BOBBIN WINDER



## FULLY AUTOMATIC OPERATION--- DUMP EMPTY BOBBINS IN HOPPER;

*The machine does the rest*

**Will handle four or more colors or counts at once; sorting full bobbins into separate cans**

*The spindles travel by one automatic head, operating up to 100 spindles*

**LOWEST INVESTMENT COST ★ LOWEST LABOR COST**

*Write today for information*

# ABBOTT MACHINE COMPANY

*Wilton, N. H.*

***Southern Representative, L. S. Ligon, Greenville, S. C.***

# HOW TO GET LONGER LIFE *and* BETTER WORK FROM CARD CLOTHING

## USE A BURNISHER BRUSH SPARINGLY

The primary purpose of a burnisher brush is to polish the sides of the wire BEFORE grinding. It should NOT be used after grinding unless absolutely necessary, because it has a tendency to dull the points.

The only excuse for using it in this way is to knock off hooks on the points which poor grinding has produced.

Occasionally mills use a stripping brush for burnishing. This is dangerous practice, since it may damage the wire or the foundation.

A burnisher brush, like other card clothing, should also have the correct wire for the purpose. Let Ashworth help you to select it.

# ASHWORTH

PIONEERS IN CARD CLOTHING . . . *ASHWORTH BROS., INC.*

Woolen Div. AMERICAN CARD CLOTHING CO.

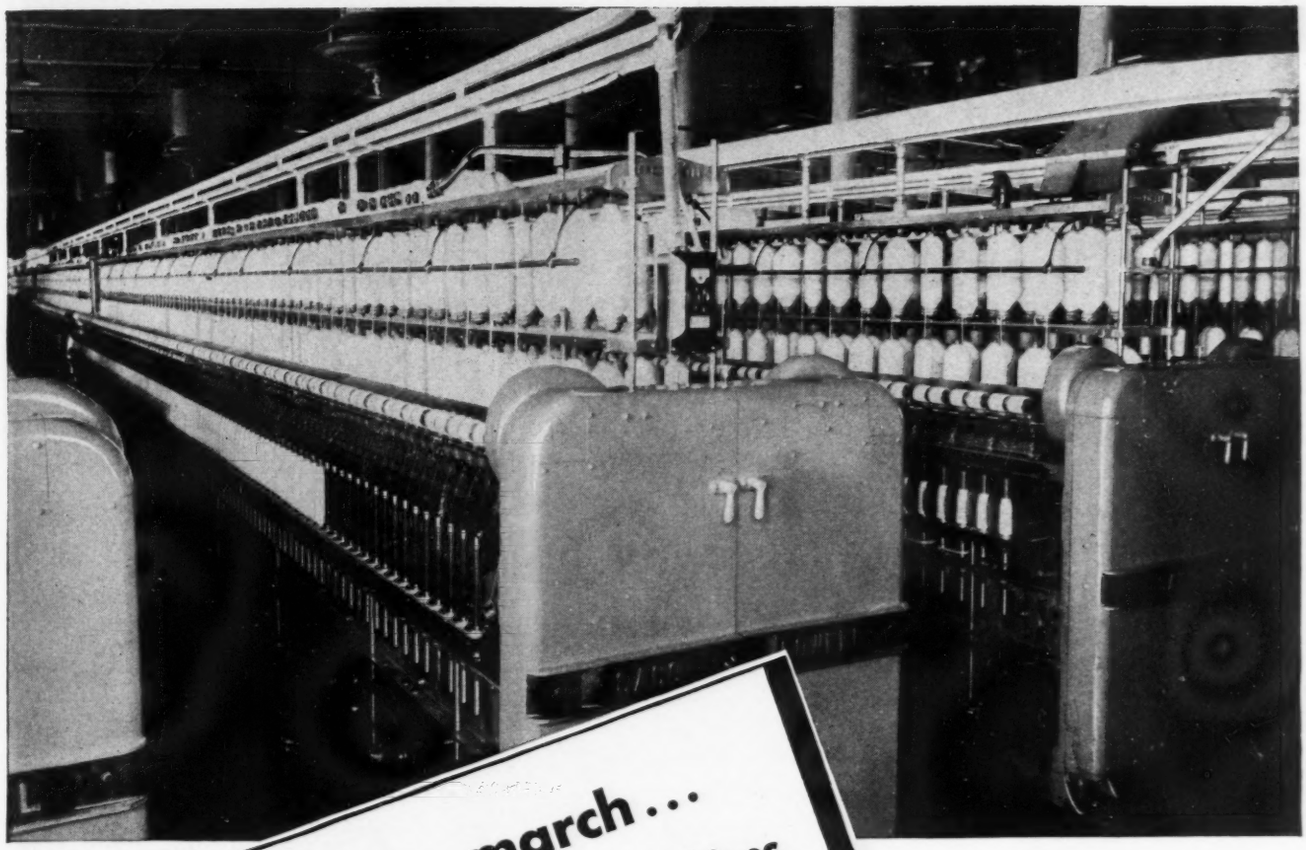
**3** FACTORIES
FALL RIVER
WORCESTER
PHILADELPHIA

**6** REPAIR SHOPS
FALL RIVER, PHILADELPHIA
CHARLOTTE, GREENVILLE
ATLANTA, DALLAS

**7** DISTRIBUTING POINTS
FALL RIVER, WORCESTER
PHILADELPHIA, CHARLOTTE
GREENVILLE, ATLANTA, DALLAS

SOUTHWESTERN REPRESENTATIVE: • TEXTILE SUPPLY CO., DALLAS, TEXAS

PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed



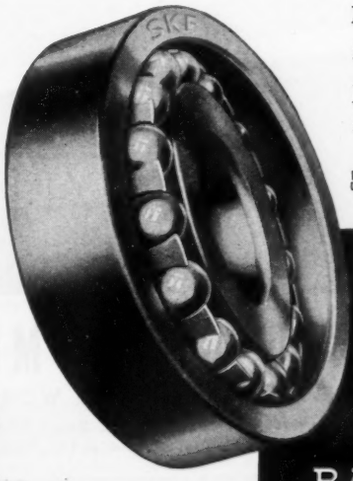
# Textiles on the march . . . come from SKF-equipped machines

*Built by*
SACO-LOWELL SHOPS

Next time you see a regiment swinging down the street or rolling across the country in canvas-canopied trucks, think of the vast quantity of cloth consumed by the armed forces of America. Think of the army of machines required to make this cloth, and you'll think of spinning frames. On the spinning frames that produce an even strong yarn at a low cost per pound, you'll find SKF Bearings on cylinders allowing for shaft deflections caused by settling floors . . . on spindle bolsters for uniform operating speeds at low power and lubrication costs. To use anything but SKF's is to take a chance on letdowns and shutdowns resulting from bearing trouble.

5081

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA.




SKF

BALL AND ROLLER BEARINGS

All wires seat square, flat and firmly into the Foundation.

All wires are parallel.

All wires are even in length.

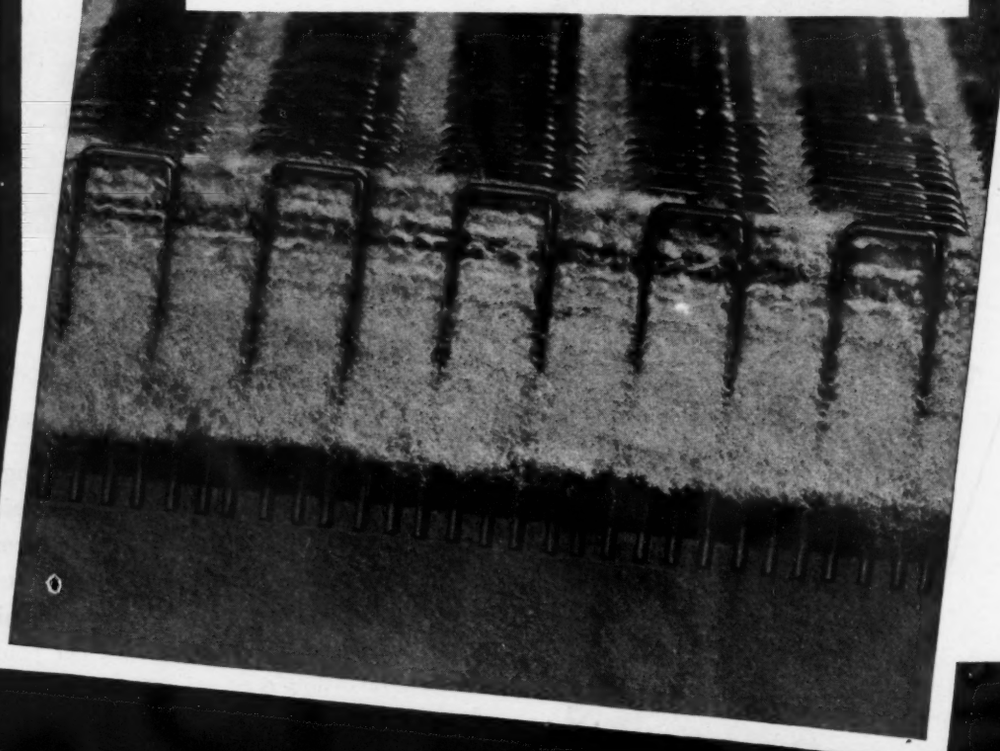
All wires are spaced uniformly.

Microphotograph is 5 times actual size.

*For high speed, heavy duty carding for war production you need the uniform quality of*

# TUFFER CARD CLOTHING

*Notice how uniformly parallel the wires are placed . . . the evenness of the points . . . the flat square crowns. The secret lies in our patented Tufferizing Process—developed and owned exclusively by Howard Bros. Try Tuffer the next time you order.*



TRADE MARK
TUFFER
REG. U.S. PAT. OFF.
CARD CLOTHING

## HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: WORCESTER, MASS.

*Southern Plants:* Atlanta, Ga., Gastonia, N. C. *Branch Offices:* Philadelphia, Dallas
*Canadian Agents:* Colwool Accessories, Ltd., Toronto 2, Canada

**Products:** Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

# *Save six ways*

## WITH "MODINAL" D* FOR SCOURING WOOLEN GOODS

NEVER in history has woolen goods production reached its present peak. Meet demands and assure peak efficiency by using "Modinal" D double strength detergent for scour and dye baths.

- "Modinal" D reduces rinsing time.
- Colder water may be used for rinsing. This saves steam.
- No unpleasant odor will develop – goods will not "yellow" in storage.
- "Modinal" D eliminates blotchy dyeings and improves penetration.
- It sometimes costs less for "Modinal" D than adding more scouring soaps.
- The personal equation in processing is reduced – results are uniform.

Ask one of our technical experts to show you working formulas for various types of woolen goods. Let him help you make any slight adjustments that may be necessary to meet your operating conditions.

* **"MODINAL"** *is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulphates.*

**GARDINOL CORPORATION, GENERAL OFFICES, WILMINGTON, DEL.**

SALES AGENTS: Procter & Gamble, Cincinnati, Ohio · E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware

A *Finnell* COMBINATION SCRUBBER . .

# Speeds Removal of Hazardous Oil and Grease from Floors . .

## *At* AMERICAN AIRLINES, INC., New York Municipal Airport

"Each of our hangars," writes American Airlines, Inc., "has an area that would accommodate a full-size football field with 12,000 square feet left over for bleachers. With the continuous overhauls and checks going on, a considerable amount of oil and grease is dropped on the floor. Your *Combination Scrubber,* with one operator, thoroughly cleans the entire floor area—removing every trace of the oil and grease—in three-quarters of a working day."

Whether the *Finnell Scrubber-Rinser-Drier* (the one machine handles all operations) is for use on floors of an airplane hangar or of a textile mill, it's the practical solution to the problem of *quickly* removing slippery substances, dirt, et cetera, from large-area floors . . . to provide cleaner, safer floors for workers . . . to reduce fire liability as well as accident hazards.

For consultation, literature, or free floor survey, phone or write nearest *Finnell* branch or Finnell System, Inc., 1308 East Street, Elkhart, Indiana.

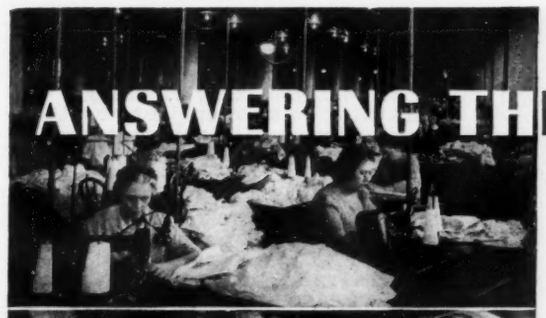
**FINNELL SYSTEM, INC.**

*Pioneers and Specialists in*

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

# ANSWERING THE CALL FOR SPEED!



THE kind of speed needed today is PRODUCTION SPEED. It is attained by having *equipment* that stands up under the strain of gruelling, high speed runs . . . equipment that is easy to operate . . . that produces a quality of work that minimizes rejections . . . that is especially designed to do the job! UNION SPECIAL PRODUCES THIS KIND OF EQUIPMENT — *for all industrial sewing requirements.* We are always glad to make recommendations. UNION SPECIAL MACHINE CO., 438 North Franklin St., Chicago, Illinois.

## *the* Lockstitch

• Whether used for war production work or for essential civilian supplies, the Union Special Lockstitch, *Style* 61300 C, is a favorite with operators and owners, alike! This machine has the same feeding mechanism that is used in finest special machines in the Union Special line, plus numerous exclusive design features which enable it to set a new standard for performance on all kinds of single needle plain seaming work.

# UNION SPECIAL

*World's Largest Exclusive Builder of Industrial Sewing Machines*

# Dear Pop:

Even an old Rainbow Divisioner like you would pop your eyes at the army we're putting together this time. Let me tell you, they're doing everything to make up just about the best bunch of fighting galoots you ever saw.

And that goes for what they do for us off duty, too! Take this new clubhouse we got just outside of camp. It's got radios, dance floors, nice soft chairs and everything. And, Pop, you can get something to eat that won't cost you a month's pay!

Now, the army isn't running this. The USO is. And most of the other camps got USO clubs too, because you and a lot of other folks dug down and gave the money to the USO last year.

But, Pop, you know what's happened since then. Guys've been streaming into uniform. Last year there was less than 2 million of us. This year there'll be 4 million. And the USO needs a lot more dough to serve that many men—around 32,000,000 bucks I hear.

Now, Pop, I know you upped with what you could last time. But it would sure be swell if you could dig into the old sock again. Maybe you could get some of the other folks in the neighborhood steamed up, too.

It will mean an awful lot to the fellows in camp all over the country. Sort of show 'em the homefolks are backing them up. And, Pop, an old soldier like you knows that's a mighty nice feeling for a fellow to have. See what you can do, huh, Pop?

*Bill*

**GIVE TO THE**

# USO

*Send your contribution to your local USO Committee or to National Headquarters, USO, Empire State Building, New York, N. Y.*

# Textile Unit now equipped for Woolen, Worsted Spinning

Part of the complete set-up for experimental production of worsted-type yarns from rayon staple fiber and rayon blended with wool, now in operation at our Textile Unit.

*Additional machinery for experiments makes our 4-PLY SERVICE even more complete.*

NAME ANY KIND of textile mill that you can think of . . . and you probably will find such a mill operating on an experimental basis . . . in our Textile Unit at Marcus Hook, Pennsylvania. This Unit is a separate, self-contained research plant devoted to the solution of mill problems. Here, with a wide variety of types of equipment used in every phase of textile production, men skilled in textile problems give practical assistance to mill owners and operators. Perhaps you have a problem involving rayon—from fiber properties to the sale of finished fabrics. If you do, it will pay you to bring your questions direct to a great rayon headquarters—American Viscose Corporation. No obligation is entailed.

**FOUR-PLY SERVICE**

1 **FIBER RESEARCH**—Helps you get the right yarns.

2 **FABRIC DEVELOPMENT**—Helps you design new fabrics.

3 **MILL TECHNIQUE**—Helps solve mill problems.

4 **SALES ASSISTANCE**—Helps sell finished products.

**SALES OFFICES:** New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

**PLANTS:** Marcus Hook, Pa.; Lewistown, Pa.; Meadville, Pa.; Roanoke, Va.; Nitro, W. Va.; Parkersburg, W. Va.; Front Royal, Va.

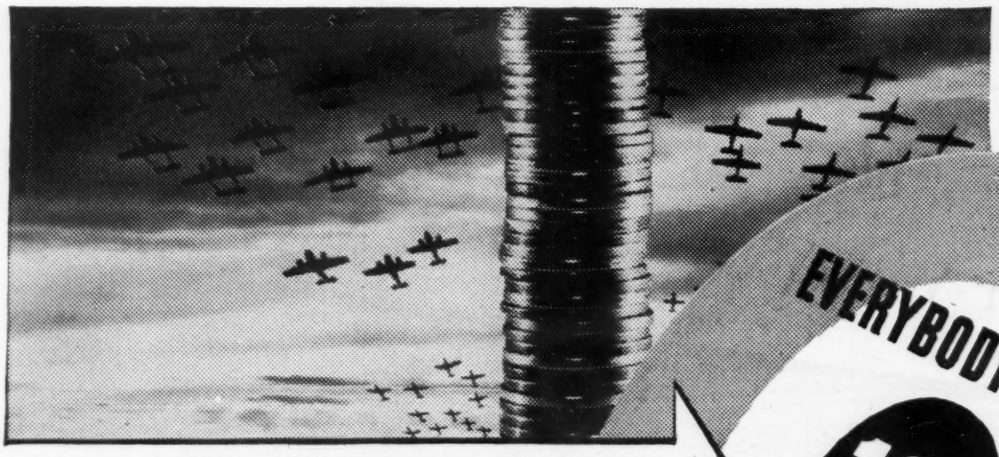
CROWN TESTED AND APPROVED RAYON FABRIC

AMERICAN VISCOSE CORPORATION

*Producer of* CROWN* *Rayon Yarn and Staple Fiber*

Copr. 1942—American Viscose Corp.

*T. M. Reg. U. S. Pat. Off.



# *New Target for Industry:*

## More Dollars Per Man Per Month in the PAY-ROLL WAR SAVINGS PLAN

EVERYBODY 10% EVERY PAYDAY

TO WIN THIS WAR, more and more billions are needed and needed fast—AT LEAST A BILLION DOLLARS A MONTH IN WAR BOND SALES ALONE!

This means a *minimum* of 10 percent of the gross pay roll invested in War Bonds in every plant, office, firm, and factory in the land.

Best and quickest way to raise this money—and at the same time to "brake" inflation—is by stepping up the Pay-Roll War Savings Plan, having every company offer every worker the chance to buy MORE BONDS.

Truly, in this War of Survival, VICTORY BEGINS AT THE PAY WINDOW.

If your firm has already installed the Pay-Roll War Savings Plan, *now is the time*—

1. To secure wider employee participation.
2. *To encourage employees to increase the amount of their allotments for Bonds, to an average of at least 10 percent of earnings—because "token" payments will not win this war any more than "token" resistance will keep the enemy from our shores, our homes.*

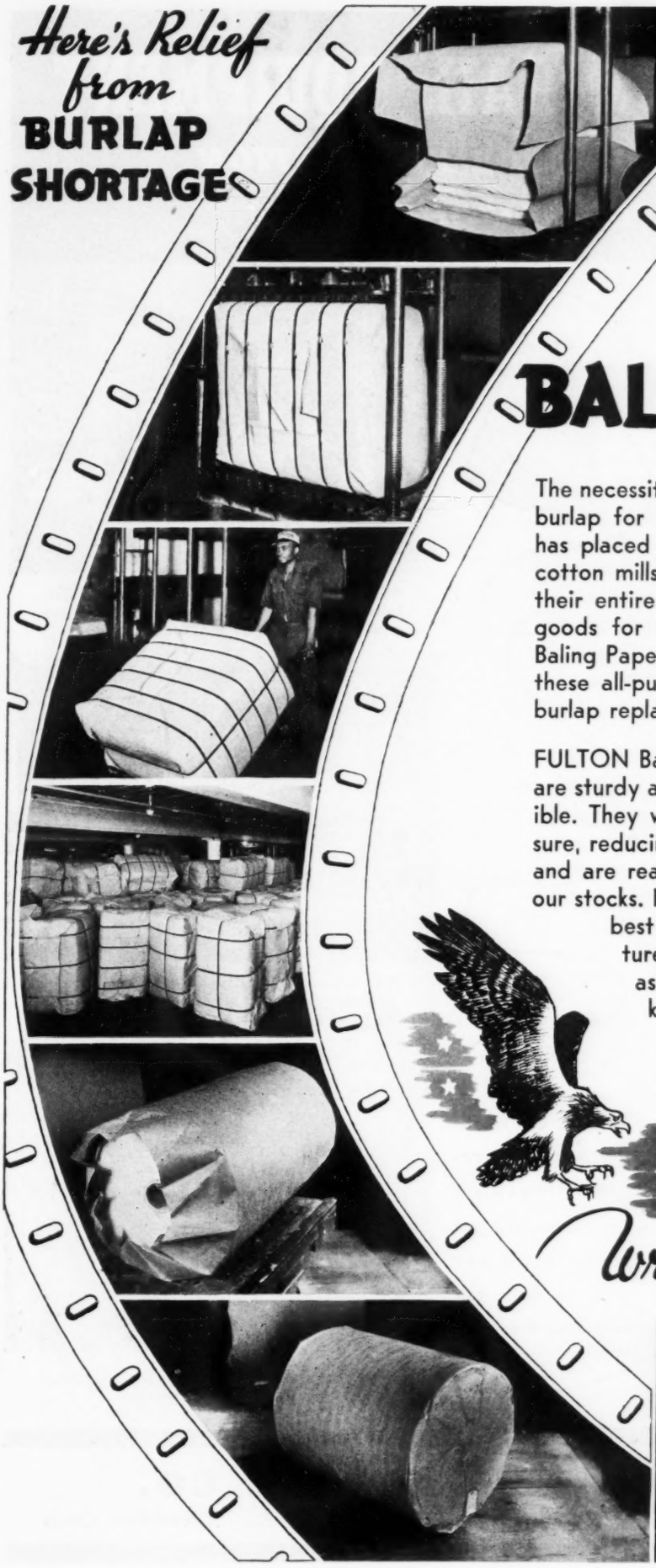
If your firm has not already installed the Pay-Roll War Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write, wire, or phone: War Savings Staff, Section E, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

# U. S. War Savings Bonds

This space is a contribution to America's all-out war program by

COTTON

*Here's Relief from* **BURLAP SHORTAGE**



# NEW *Fulton* *Waterproof* BALING PAPERS

The necessity of using the limited obtainable supply of burlap for more important purposes than wrapping has placed a serious packaging problem before the cotton mills. Cotton mills realize that they must use their entire manufacturing capacity to make cotton goods for war needs. In this emergency FULTON Baling Papers furnish the answer. You can depend on these all-purpose wrapping papers as a satisfactory burlap replacement to protect cotton goods.

FULTON Baling Papers have many advantages. They are sturdy and tough, waterproof, dustproof and flexible. They will save your goods damage from exposure, reducing losses and claims. They are low in price and are readily available for prompt shipment from our stocks. Furnished in various widths and weights to best suit each individual mill's needs. Manufactured in our own plant, a special waterproof asphalt binder cements two layers of tough kraft paper, making a wrapping that is easy to handle—one that will withstand rough treatment in storage and in transit.

FLAT duplex paper for roll goods. CRINKLE duplex paper for baling goods.

*Write for samples—the low prices will surprise you.*

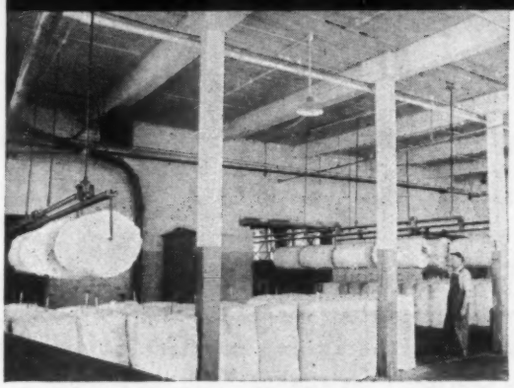
**Fulton Bag & Cotton Mills**

*Manufacturers Since 1870*

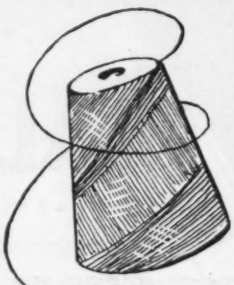
ATLANTA ST. LOUIS DALLAS
NEW ORLEANS MINNEAPOLIS
KANSAS CITY, KAN. NEW YORK

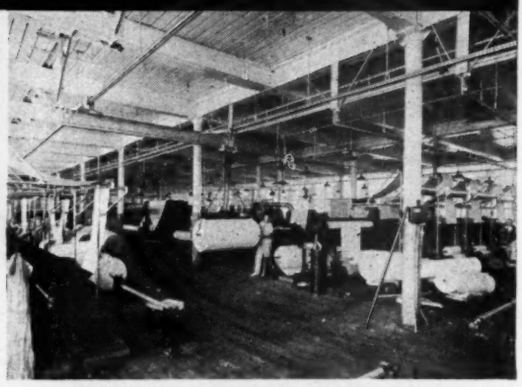
# AMERICAN MONORAIL EQUIPMENT

## *HELPS SPEED UP WAR PRODUCTION IN EVERY TEXTILE OPERATION*

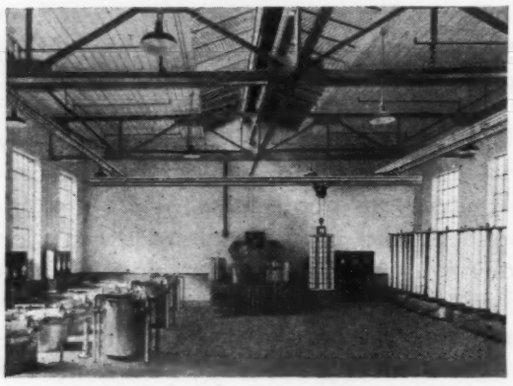


● Production moves easily with each carrier handling four laps on tracks extending throughout the card room.

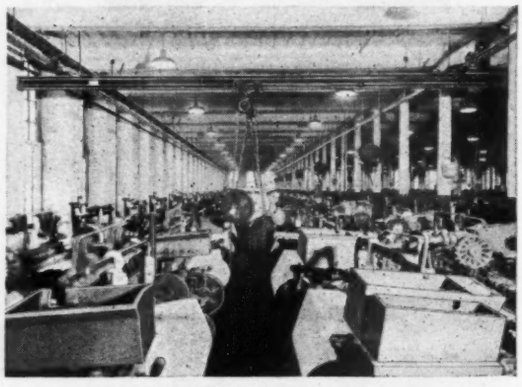




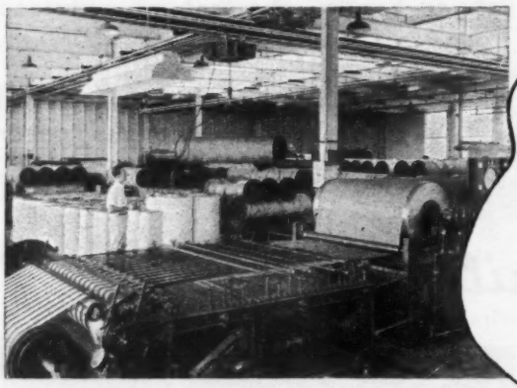
● Short hand-operated crane serves finishing machines and interlocks with spur track to inspection machines.



● Simple hand pushed crane with electric hoist completes the operation of this modern package dye house.

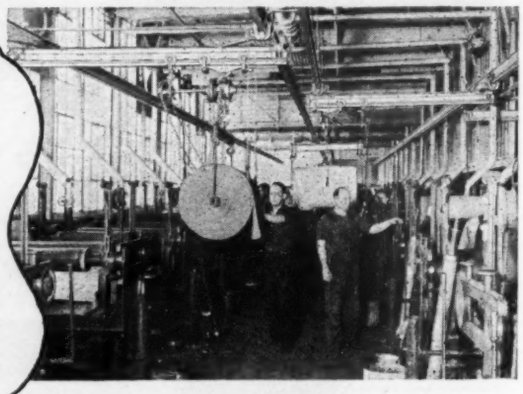


● Overhead handling of warps and rolls permits compact arrangement of looms by taking up aisle space.



● Hand operated crane with electric hoist covers beam storage area for serving slashers.

*Ask us to show you how American MonoRail will help step up production in your mill to help you help win the war.*



● Short transfer cranes interlock together to serve all jigs in this dye shed.

**THE AMERICAN MONORAIL CO.**

13106 Athens Avenue — Cleveland, Ohio

AUGUST, 1942
Volume 106 Number 8

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# COTTON
SERVING THE
## Textile Industries

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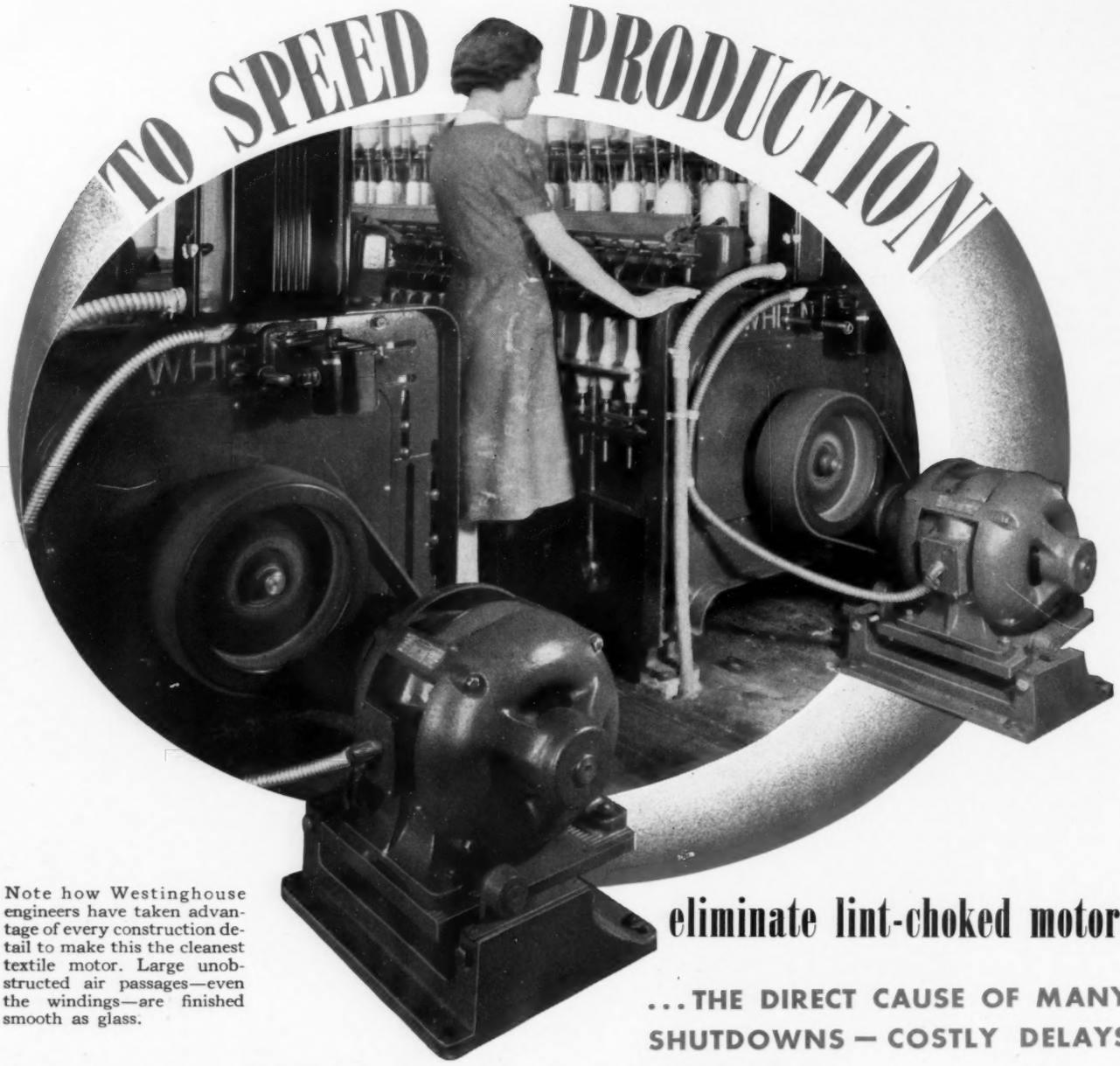
# TO SPEED PRODUCTION



Note how Westinghouse engineers have taken advantage of every construction detail to make this the cleanest textile motor. Large unobstructed air passages—even the windings—are finished smooth as glass.

## eliminate lint-choked motors

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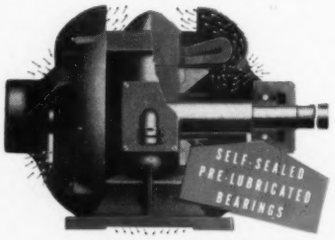
Textile mill operators appreciate the saving procured by the use of Westinghouse motors because of less motor maintenance, no greasing, fewer shutdowns, but more than that they appreciate *continuous production!* For details, see your Westinghouse representative right away.

J-21214




Lint can't choke these motors. The bearing housing is smooth and round. The sealed ball bearing construction eliminates lubrication.

# Westinghouse

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*By assuming non-combatant duties which will relieve men for combat service, Women's Army Auxiliary Corps will stand shoulder to shoulder beside our fighting forces.*

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**And as makers of textile products for spinning and weaving operations, Dayton is proud of its part in this great war production effort. We consider it both a privilege and a duty to serve the great Textile Industries which are serving our nation so well.**

*In addition to serving the Textile Industries, Dayton's facilities and production experience are today being dedicated to the manufacture of special parts for Army and Navy Combat Equipment.*

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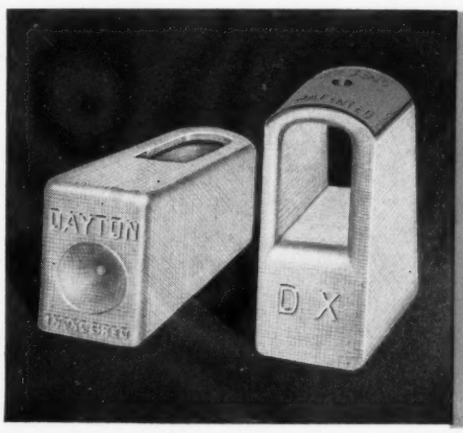


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***Thorobred* TEXTILE PRODUCTS**
**LOOM SUPPLIES—Dayco TEMPERED ROLL COVERINGS**
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

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Today, not only new cloth construction but new fibres are adding to the complexity of some of the new textile fabrics . . . these new designs must give the best and longest possible wear . . . their life must not be shortened through color failure.

Added responsibility is placed on the dyer because the problems of correct color selection are multiplied many times . . . and unfortunately, there are not as yet, any general rules that can be applied to the dyeing of these new fabrics and fibres—each fabric becomes a problem in itself and under present circumstances—there is no room for guesswork.

Why not let us advise you on the best and most economical dyestuffs to use on these new fabrics and fibres which will uphold the standards of your own particular cloth. Just write, wire or phone for full particulars.

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# SHORTS AND REMNANTS

## "War and Peace"

War in Russia has revived interest in one of the most famous of Russian novels, Count Leo Tolstoy's "War and Peace". It's a great book for your vacation reading (if you happen to get a vacation), but we warn you. It's 1,200 or so pages and you have to take time to absorb some Russian philosophy and prize passages such as the following:

"The Frenchman is conceited from supposing himself mentally and physically to be inordinately fascinating both to men and women. An Englishman is conceited on the ground of being a citizen of the best-constituted state in the world, and also because he, as an Englishman, always knows what is the correct thing to do, and knows that everything that he, as an Englishman does do, is indisputably correct. An Italian is conceited from being excitable and easily forgetting himself and other people. A Russian is conceited precisely because he knows nothing and cares to know nothing, since he does not believe it possible to know anything fully. A conceited German is the worst of them all, and the most hardened of all, and the most repulsive of all; for he imagines that he possesses the truth in a science of his own invention, which is to him absolute truth."

At the time Napoleon was invading Russia, in the period covered by this book, the United States was only a bare quarter of a century old. Therefore, Tolstoy couldn't say much about the Americans and we wonder if he would say that we are conceited because of our vast resources and our freedom? We are afraid he would be only too likely to attribute our conceit to a blind faith in machines and the production line, and in their ability to cure all the evils of the world.

What we would really like to read is his idea of the conceit of the Japanese.

◆

## Best Song

They had to go back a long way to drag out the old apple tree, but the best song of the present war is that one about "Don't Sit Under the Apple Tree." Maybe we are old-fashioned, but personally we like those of 1917 and 1918 best. Remember "Goodbye Ma, Goodbye Pa," "It's a Long Way to Tipperary," "Over There," etc.

◆

## 'Maintenance Methods"

"Will you please send me six copies of 'Maintenance Methods', by executives of the Avondale Mills, which was reprinted from the February issue of COTTON?"

J. T. BRAY

Superintendent
Woodside Cotton Mills Co.
Greenville, S. C.

◆

## "Dyeing" for Electric Company

"Will you kindly send us one copy of the issue of COTTON containing the article by P. M. Parrott entitled 'Dyeing Yarn Packages' . . ."

GRACE DONOVAN

Librarian
Western Electric Co., Inc.
Kearny, New Jersey

## Cooperation with Advertisers

". . . Thanks again for the co-operation which can always be expected from COTTON, if we may say so . . ."

M. S. PENNELL

Chapman Electric Neutralizer Co.
Portland, Maine

The above concern manufactures equipment to eliminate static electricity in the textile mills. The co-operation referred to represented suggestions as to their textile market and the type of plants interested in this equipment. COTTON is always glad to assist advertisers in securing market information where it is available. Also, we are glad to help advertisers in their problems of sales representation. A background and acquaintance of 44 years of service to the textile field is a great aid in rendering such services.

Note: This offer of co-operation to advertisers doesn't include finding a source of steel or bearings or securing priority headaches, but even in these instances, we have sometimes been able to direct advertisers to the proper parties who can at least provide an answer to their questions.

◆

## From Personnel Director

"If available, we would like to have two hundred of these reports ["The Handling of Grievances", June, 1942] shipped to us here."

H. B. CARLISLE, JR.

Pacific Mills
Lyman, S. C.

◆

## Director of Purchases Interested in Loom Motor

"The writer has read with interest the article in the June 1942 issue of COTTON concerning requirements of a loom motor . . . if you have a spare copy or reprint of the June article, we should like to have it as well as the other two."

W. S. PEPPERELL

Purchasing Department
Carter Fabrics Corporation
Greensboro, N. C.

◆

## Wood Preservative

"Somebody around Atlanta uses a machine that treats wood with the preservative under pressure . . . could you tell us the name of the makers?"

J. E. WARREN

Avondale Mills
Sylacauga, Ala.

◆

## More "Maintenance Methods"

"Will you please send at least two—and six if you can spare them—'Maintenance Methods at Avondale Mills'—reprints from the February issue . . ."

R. A. WELLS

Manager
Bemis Bro. Bag Co.
Bemiston, Ala.

---

"We have been asked for a couple of copies of 'Maintenance Methods Used by Avondale Mills' for the Safety Department of the U. S. Navy Yard at Portsmouth, N. H.; also for 15 copies to be given to a class in Safety Engineering at the University of N.H."

HUGH M. COMER

Vice-President
Avondale Mills
Sylacauga, Ala.

**John C. Fonville, on leave from the editorial department of "Cotton" for army service, has been promoted to first lieutenant in the Army Air Forces, four months after joining the Army Air Corps at Morris Field, Charlotte, N. C., where he is now located as assistant mess officer and a member of the officer candidate board. He is shown here waiting for the all-clear signal in a dive trench during a mock air raid at Morris Field . . . . . .**

## We Always Try

"We do not know whether it is customary for you to answer questions submitted by your magazine subscribers, but . . ."

R. B. BALDERSTON

Gilbert Knitting Co., Inc.
Little Falls, N. Y.

That, Mr. Balderston, is one of the things we always try to do—not by ourselves, but through our good friends and readers, to whom we pass on requests for operating and manufacturing information. Such sections as "KNITTING KINKS" and "HOW OTHER MEN MANAGE" are based on the interchange of these ideas. We are glad to have your questions at any time.)

◆

## From South America

". . . I completed the issues since 1937. Very enthusiastic about your magazine. I've not failed to recommend it to my friends".

B. SCHIESSER

Buenos Aires
Argentina, S. A.

◆

**Richard P. Smith, promotion manager of "Cotton", is the latest member of the W. R. C. Smith Publishing Co. to join Uncle Sam's Armed Forces. "Dick" reported for duty as a First Lieutenant in the Quartermaster Corps, at Washington, D. C., on July 21st. . . . . .**

**EVALUATION LABORATORY —** The photograph shows one corner of the Rohm & Haas Textile Evaluation Laboratory where new products are tested, fabric treatments evaluated, and new testing methods developed. In the background is a control board which automatically maintains in the laboratory a constant temperature of 70°F. and a relative humidity of 65%. The highlighted laboratory equipment was designed by the Evaluation Laboratory to determine and evaluate the hygroscopic properties of new resins and sizes. An accurately measured volume of saturated air is passed over the dried samples to determine the moisture pick-up.

Other equipment in the photograph includes an abrasion tester, a skein winder, and equipment for the Draves Test.

**DON'T GIVE UP UNTIL WE DO!** Effective research requires ingenuity! Standard laboratory procedures are not always available and when such is the case, the resourcefulness of the technician determines the effectiveness of the evaluation.

Whenever there is a standard device for testing specific properties, such a machine will almost always be available in the Rohm & Haas Laboratories. In cases when no standard testing device is available, Rohm & Haas research men have developed devices for accomplishing the desired result.

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**RHOPLEXES** – *Aqueous resin dispersions for finishing and coating fabrics.*

**RHONITES** – *Modified urea formaldehyde resins for textile finishing.*

**PROTOLIN** – *Stripping agent for wool stock and piece goods.*

**FORMOPON** – *Reducing and stripping agent in acid systems.*

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COTTON
Textile Industries
Vol. 106 August 1942 No. 8

# Wanted: Some Statesmen!

FOR SEVERAL MONTHS, as we have prepared these discussions on inflation, we have been wondering if another month would bring the explosions that will wreck the price ceiling system and get a real inflation started. The OPA has been delegated to tie down the safety valve, and is now trying to keep it down while countless other agencies are stoking coal in the firebox as hard as they can, and the old boiler is beginning to leak at the seams. Either the safety valve has got to be released or less coal has got to be put in the firebox. The fuel of inflation is excess purchasing power, and nobody denies that and nobody wants to give up his part of the excess purchasing power, but rather strives for more, expecting "the other fellow" to sacrifice.

The control of inflation is the responsibility of Congress. Only Congress can make appropriations and only Congress can levy taxes. Congress alone can repeal laws which encourage inflation or pass laws which will control it. One distinguished Senator has argued that since the responsibility for carrying on the war was entirely in the hands of the Administration, Congress could not do otherwise than vote appropriations as requested. This is a very flimsy excuse for the failure of Congress to take the all-important steps to control inflation. The Constitution entrusts the public purse to Congress, so that the direct representatives of the people may see that the people's money is prudently expended. Committees of Congress have uncovered an incredible amount of waste and deliberate squandering of public money; yet as one appropriation bill after another passes through Congress, we have not heard one responsible voice raised to question the propriety of appropriating money without question, and without making any effort to see that as little as possible is wasted and used for directly inflationary purposes.

CONGRESS passed the 40-hour law and Congress can repeal it. It is the most inflationary agency in the United States today and the most dangerous piece of economic foolishness that this country has tinkered with in all of its economic experimentation. When the President and influential Congressional leaders were pointing out months ago that the war entailed sacrifices and that there must be a lowering of the standard of living and that people must accustom themselves to the idea of getting along with less instead of more, they were at the same time positively assuring inflation by the continuance of the 40-hour law in a war-time economy.

Members of Congress who appropriated 10 million dollars for building a camp, and then had to appropriate 15 more million for finishing it, must have known that there was something rotten about the way the camp was being built. Certainly the War Department was not so ignorant and incompetent as to ask for 10 million dollars for a camp if its estimates showed the camp would cost 25 million. Congressional committees visited some of these boondoggling projects and discovered that waste and corruption was the rule rather than the exception; that thousands of totally unskilled men were paid two dollars and three dollars an hour of taxpayers' money to do work about which they knew nothing and to follow trades of which they were totally ignorant. These Congressional committees found that the reason the camps were costing two and three times as much as estimated was because crooked dealers in supplies were gypping the Government and crooked labor unions were gypping it even worse by insisting that unreasonable numbers of men at totally unreasonable wages be employed on the work. Rather than offend the harpies responsible for this ravishing of the Treasury and lose some votes by antagonizing these labor organizations, Congress discreetly did nothing except vote more huge appropriations without question, although many Congressmen, if not all, knew that perhaps half of the money was a total waste unless it could be charged up under the head of "Social Gains".

It was within the power of Congress to break up these rackets; to insist that every Government job be an open shop job, and that the only qualifications for getting work were skill at the craft involved and a willingness to work. Hundreds of millions of dollars were extorted from workmen by labor racketeers to permit people to work at the inflated wages which were in turn extorted from the taxpayer. Congress knew all about these things and did nothing to remedy them.

THE PRESIDENT has announced that during 1942 we will spend at least 50 billion dollars, and almost certainly more, on the war. Congress has just presented its tax bill to raise slightly over six billion dollars. We will borrow the other 44 billion. Every dollar of this borrowing is inflation. Every dollar of it creates

potential shin plaster money. Congress knows this, but Congress hasn't the courage to tell the people that the war has got to be conducted more nearly on a pay-as-you-go basis. Congress knows that right after the November elections another tax bill will be levied, but Congress lacks the courage to break the news to the people now. How our enemies must gloat over this Congressional cowardice!

Any Congressman intelligent enough to win an election knows that there can be no price ceilings on only some prices, while others are unregulated. The price of labor and the price of raw materials must be controlled to make any price regulation work. Congress knows this, but about four-fifths of Congress is up for re-election, so national defense must wait on politics.

When the war started the two big labor union organizations agreed that there should be no strikes during the war. What else could they do? At the time Japan attacked us public opinion was turning against these labor organizations and Congress was seriously considering some repressive laws to clip their wings. To have attempted to continue the high-handed and dictatorial tactics of pre-Pearl Harbor days would have aroused a storm in the United States that would probably have destroyed both labor organizations. In agreeing not to call strikes, the unions were stopping strikes after the same fashion that an arsonist would stop fires—by not starting them. The overwhelming majority of strikes were deliberately fomented by the unions for their own purposes and without any spontaneous demand from the strikers. An enormous number of strikes involved nothing but the union shop; recognition of the union; the check-off; or some other purely organizational demands designed to rivet the shackles on the hapless employer, and not to benefit the individuals of the membership. The unions, therefore, while forced to give up the habit of calling these unjustified strikes, had little to lose by relinquishing this privilege. It was quite certain that the exigencies of the war would require universal overtime work and the 40-hour law would guarantee a consequent wage increase of at least 25 to 50 per cent in cash earnings per week. In agreeing not to foment strikes the unions were therefore giving up nothing, and promising nothing except that they would not deliberately stir up labor trouble. There is no reason to think that either of the big unions can prevent strikes if they are spontaneous strikes and if the people want to strike. All the big unions can do is to keep their trained inciters and fomenters of trouble away from the strike so that it can be sensibly settled instead of indefinitely prolonged.

There is no reason to think that the unions have in the slightest degree abated their fixed policy of jacking up wages to any unreasonable level that force can push them, and doing as little work as possible for the wages that are paid. These have been the union policies in every case where we have come in contact with unions. The invariable union policy within the scope of our observation in the textile industry has been to make everything cost just as much as possible. We may therefore definitely count on the labor unions to plant inflationary dynamite under the economic structure.

Congress passed all of the laws that permit these unjust impositions upon the taxpayer, and Congress can repeal them. Congress holds the purse strings and Congress has the power to make the war cost less or more, as the purse strings are manipulated. Congress to date has looked upon this war as a boondoggle rather than a war. Congress might remember that we can boondoggle ourselves out of this war, and that unless the brakes are very quickly applied to inflation. we very probably will.

A LOT OF Congressmen are moaning that there is an organized attempt to discredit Congress. Maybe there is, but we have never been able to see that Congress ever organized such an attempt; they just seem to do it naturally. It would be hard to find an intelligent American who has got any complaint about Congress as an institution. Anybody with good sense knows that Congress is what makes possible our American form of government, and that any time Congress goes, the America that we know goes with it. The same American likewise feels that when Congress gives up statesmanship and sinks to a level of boondoggling and pork-barreling and job-landing and back-slapping, the country is in danger. The national policies of the past nine years have naturally developed a wasteful, extravagant, indifferent Congress, where squandering was a virtue and thrift and prudence were vices.

This is war! This is no boondoggling spree to try to buy an election. The very existence of the country is at stake. The lives, the property, the happiness, the future of all of our people depend on our getting down to a serious prosecution of the war and the abandonment of boondoggling.

When Congress permits a war to cost eight or ten times as much as the amount of taxes levied, there is something wrong with Congress, and there is no logic in Congressmen criticizing the people for noticing it. In its hour of peril, our country needs enough real statesmen in Washington to afford courageous leadership for those timid Congressmen who lack courage of their own to do what they know has to be done. Have the wasteful, blighting years of "Borrow and Boondoggle" so sapped the character of Congress that there are not enough courageous leaders to make it perform its proper function? There is little hope of improving on Congress unless it will improve on itself. Most of the membership can count on re-election, and most of those who don't get re-elected will fail for local, rather than national, reasons. It takes a long time to break up a well-oiled political machine when it is oiled with the vast sums of Federal patronage that have been at the disposal of Congress for the last few years. There is little reason to think that any flaming and capable crusaders will come freshly into the Halls of Congress in January. We have got to get along with what we have, and the nation may well pray that more courageous leadership will emerge in Congress, which has nobody but itself to blame for the storm of criticism which has broken about it.

# Repairing and Reclaiming Worn Textile Parts by Metallizing

**By F. E. Bozeman, Jr.**
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THE PROCESS of metallizing worn parts is a comparative newcomer to the textile industry. We doubt whether there are many installations at present in textile mills throughout the South. This is unquestionably due in part to a natural instinct of being a little cautious as to any unusual departure from the usual way of performing an operation. We can well remember the antipathy toward long draft spinning and long draft roving and one-process picking 12 or 15 years ago, yet today these things are accepted in practically all mills.

Metallizing has also encountered somewhat the same reception in places, and has met with unfavorable reaction elsewhere due perhaps to a lack of understanding of its use. In this article we shall try to present an unbiased opinion on the practical application of metal spraying as a means of salvage by textile mills. We are writing on the basis of an extensive experience with the process in repairing worn parts such as spindle whorls, roll necks and squares, roving spindles, drawing calender rolls, spinning frame cylinders, etc.

### The Necessary Equipment

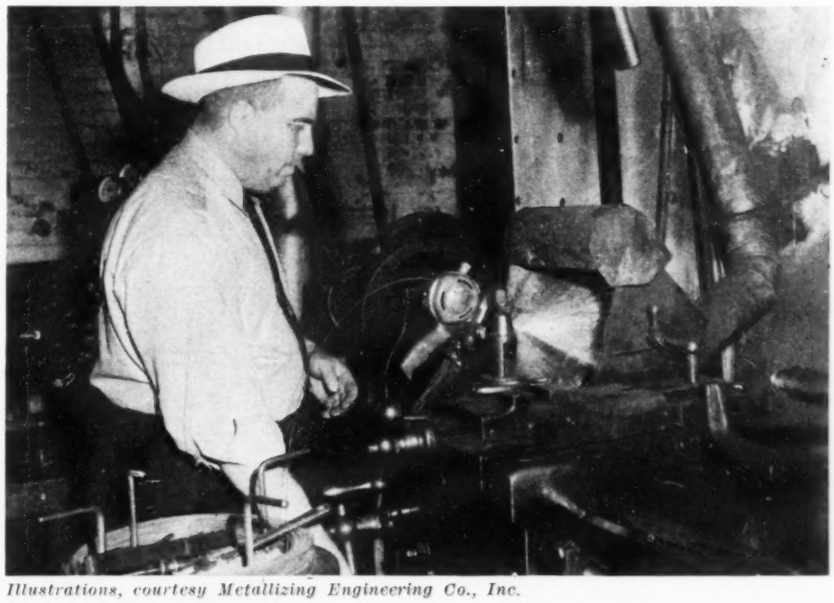
Let us first describe the equipment needed to spray metal. The first thing necessary is an air compressor capable of supplying a constant flow of approximately 35 cubic feet of free air per minute at a pressure of 60 pounds per square inch. In order to compensate for line loss and the pressure drop of about 10 pounds at the air regulator, the line pressure should be kept to at least 70 pounds. The compressor unloader should be set to a minimum between the "cut out" and the "cut in" of not more than 10 or 15 pounds. If the unloading range is too wide it will cause fluctuating pressure at the gun. It is most important that the air pressure be constant and accurate, because poor regulation will cause a drop in spraying speed and result in a rough coating.

It is furthermore absolutely necessary that the air supply to the gun be free from oil, dry and clean. Between the air receiver or tank and the gun, an air drying unit should be placed to trap all the oil and water in the air and deliver to the gun air free from these impurities. This oil-and-moisture filter should be installed in the air line just before the air regulator. The air hose to the gun itself should be attached to the air line immediately at the air regulator. The filter element in the air filter should be replaced every three to six months, depending upon the amount the gun is used. It should be drained two or three times a day. These precautions are vitally necessary to the proper operation of the gun.

Oxygen and acetylene are used in standard containers; or, in some cases, the acetylene is made in a regulation generator. The oxygen and acetylene lines are attached direct to the gun right along with the air line.

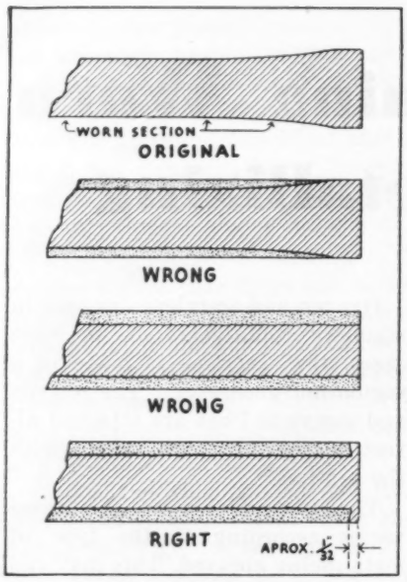
The consumption of the gases varies according to the type of metal being sprayed. This may run from 22 to 32 cubic feet per hour on the acetylene, to 45 or 55 cubic feet per hour on the oxygen. Regulator valves are attached to the oxygen and acetylene containers and a pressure of from 13 to 16 pounds of oxygen or 12 to 15 pounds of acetylene is used during the spraying. Always set the air, oxygen and acetylene pressures with the valve at the gun wide open.

The last item in the equipment for the spraying gun is the wire control unit. This consists of a four-legged table, on top of which is a revolving disc holding the coil of wire and automatically feeding it to the gun as it is used.



*Illustrations, courtesy Metallizing Engineering Co., Inc.*

*The author is shown here demonstrating the process of metallizing a spinning spindle. Note coil of wire in foreground, feeding automatically to spray gun on lathe . . . . . .*




*When possible, the ends of the shaft should be undercut and dovetailed . . . . . .*

The gun itself is usually mounted on the carriage of a lathe, using an attachment which is supplied with the gun. By traversing the carriage, the gun sprays the metal evenly for the entire length of the surface to be metallized. Shafts, arbors, etc., that are to be metallized can be mounted in the lathe in the conventional manner.

The metallizing wire comes in several different sizes. The large size to be used for large shafts or parts, and the smaller sizes for smaller parts. Wire nozzles to fit each size of wire, and the proper size air caps, are furnished with the gun, and can be easily changed to suit the particular job being done.

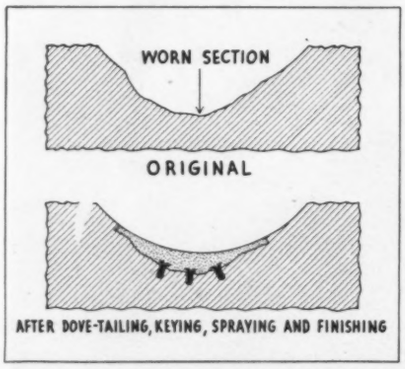
The majority of complaints we have heard regarding metallizing can be traced to the improper preparation of the part to be metallized. First, the shaft or part to be sprayed should be undercut at the worn place. Then it should be prepared for the spraying by blast-cleaning or any other suitable roughing method. The rougher the face of the part to be sprayed, the better. A regular roughing tool is furnished with each gun, and either this should be used or rough irregular threads can be chased on the shaft.

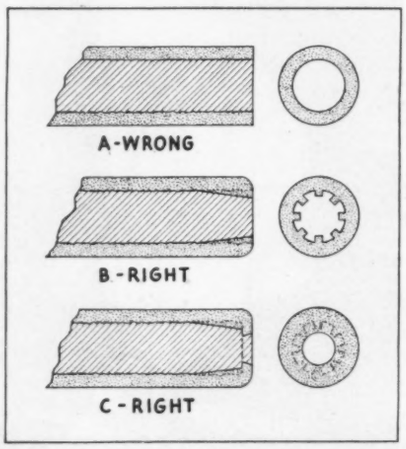
### Preparation of Surfaces

The spot or place where the metal is to adhere should be perfectly clean, and we recommend that it be dipped in carbon tetrachloride or some other cleaning agent. It is important to remember that the elapsed time between preparation and spraying should be held to a minimum, as oxides and other corrosion will form on the surface.

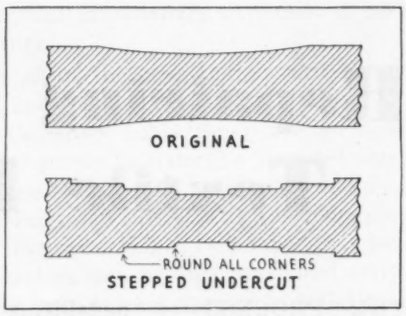
Since the sprayed metal does not form a fused bond with the original metal, but merely adheres to it, it is necessary that it be anchored by dove-tailing at each end of the cut. The accompanying illustrations covering this bring out clearly the various types of anchor cuts that can be used, and these properly applied will prevent any trouble from the sprayed metal leaving the repaired part.

If the piece to be sprayed is heavily worn, we would not recommend a straight cut down to the bottom of the worn surface, but a stepped cut getting deeper by stages. The corners of each shoulder should be rounded off and the top cut dove-tailed at each end.




*Two sketches illustrating proper preparation for and application of metallizing. Left, the use of flathead screws or similar anchorage is sometimes advisable where a heavy coating is to be applied on a concave surface. Right, when dovetailing is impossible, use the slotting method shown at "B" or undercut and dovetail the end of the shaft as at "C"*



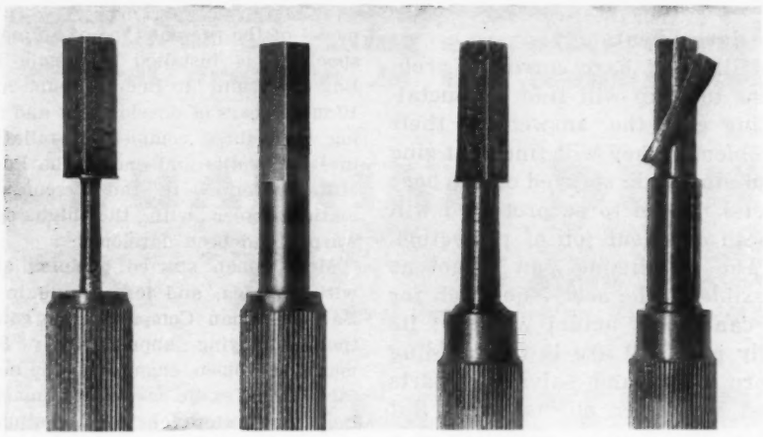

*Showing the correct method of stepping the undercut on heavily worn shafts, to avoid extra spraying and expense. Always round the corners which will be under the sprayed metal . . . . . .*

If the wear is on the end of the shaft, do not undercut straight out to the end, but taper the cut slightly just before the end is reached. A round corner should be put on the sprayed metal when finishing.

We now come to the question of the structure of the sprayed metal and its wearing qualities. Sprayed metal differs considerably in structure from cast, rolled or drawn metals. As the small particles of molten metal leave the gun at high speed, they strike the surface of the object being metallized, flatten out and cool almost immediately. As the sprayed metal is being built up, it forms a stratified structure of small flattened interlocking metal particles. Due to the presence of small amounts of oxide and absorbed gases, the sprayed metal is slightly pervious.

This structure results in a change of characteristics of the metal. The ductility, tensile strength and elongation are greatly reduced, but the qualities of wear resistance, corrosion resistance, hardness, and electrical conductivity remain virtually unchanged.

It is not recommended that this metallizing process be used where the sprayed metal would be subjected to sharp impact, continued pounding at one point, or severe edge strain. However, the peculiar structure of sprayed metal is perfectly satisfactory on journals and any other wearing surface. Surfaces coated with sprayed metal have a life of from two to five times that of the same surface unsprayed.



*Worn roll necks and square, before and after metallizing. The worn parts shown were restored to the condition illustrated second from left .*

As each succeeding layer of sprayed metal is applied to the part being repaired, it is hotter than the preceding layer. This continues as each layer is applied, and as it cools and contracts, the metal is tightening on the shaft in much the same manner as shrinking on a sleeve. When the sprayed metal is applied to inside diameters, the shrinking of the metal weakens the bond. To eliminate as much trouble as possible from this source, greater care should be used in preparing the surface and in the actual spraying.

The same stresses take place in metallizing flat surfaces. There is a practical limit to the thickness of the sprayed metal on flat surfaces and inside diameters. This should be held to the thinnest coat possible, and only a few thousandths should be applied each coat, allowing each coat to cool before applying the succeeding coat.

It is important that the wire be of highest purity, as wire containing impurities will greatly affect the type of bond obtained.

If the sprayed material is being used to eliminate corrosion problems, it is very important that the metal be finely atomized, and the operator should use the greatest care in obtaining a fine coat at least .030-inch thick.

Summing up the actual metallizing, it is well to remember the following points to insure the correct bond between the sprayed coating and the base material:

(a) The proper roughening of the base material to form keys or other openings for the sprayed metal to penetrate, thus keying or binding the two metals together.

(b) The base metal must be clean, free from oxides, oil, water, etc.

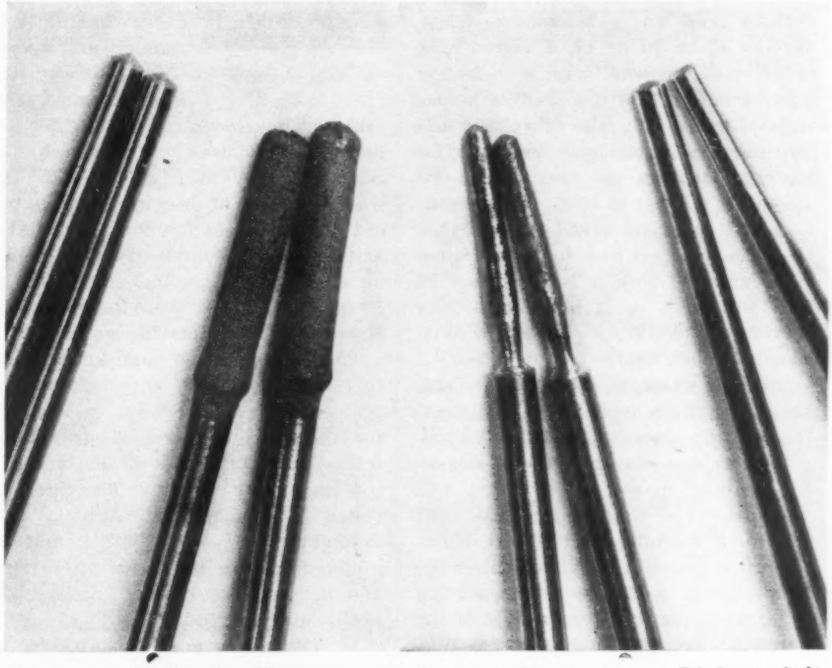
(c) The sprayed metal must be finely atomized to allow it to penetrate the smallest openings in the base metal.

(d) The air supplied to the gun must be absolutely dry, clean and free from oil.

It will be seen from the foregoing remarks that metal spraying is a little more troublesome than welding. The preparation must be done with greater care, and the bond between the base material and the sprayed metal is not fused; they merely adhere to each other. However, metal spraying has the advantage of having a better finish, and a harder finish, and the operator of a gun can be trained much more readily. Quite a number of men have become very efficient with the use of a metallizing gun after only a few hours of instruction. Another advantage in metal spraying is that the sprayed metal is of the same consistency throughout the entire depth of application, and does not have hard and soft spots; blow holes are non-existent, and the finished surface is perfectly smooth. The actual spraying time is much faster than an equivalent amount of metal deposited by welding.

With the exception of one or two styles of wire used in metal spraying, all other steel deposited by this method can be finished better by grinding instead of by machining. It is therefore advisable that the mill purchasing a metal spraying unit also purchase some type of portable or cylindrical grinder. Other metals used in spraying can be machined with either fair or excellent finishes, and need not be ground.

As experience is gained, the spraying gun can be used for many types of repairs and in reclaiming mismachined parts. The ultimate limit of metal spraying is infinite and the average mill will



*"Before and after". Showing spinning spindles in pairs: Right to left, worn, prepared for metallizing, after metallizing, and finished . .*

find many uses to which the metal spraying outfit can be put.

The main question usually asked by mill executives is, "Will it pay me to install a metallizing unit in my plant?" This question can best be answered by the size of the mill, the present condition of its machinery, and the amount of reclamation work it has to do. If it is a large mill, or a group of mills that can have access to the unit, unquestionably it can be made to pay for itself within a short time. But if a small mill did not have enough work to keep the gun in production fairly constantly, we doubt the advisability of the investment.

Mills that have corrosion problems to whip will find the metallizing gun the answer to their problem. They will find that zinc and aluminum sprayed on the base metal needed to be protected will do an excellent job of protection.

The metallizing gun is not as flexible as the acetylene torch for it can do no actual welding; its only practical use is for building worn parts and salvaging parts that have been mismachined. But while the field of operation is a little narrower, it does the job it is made to do much better in every way.

# A Textile Inventor and Pioneer

THE DEATH of Howard D. Colman (see page 98) brings vividly to mind the outstanding contributions to textile manufacturing made by this man of inventive genius and tireless endeavor. Most notable of them are the warp tying-in machine, the hand knotter and the automatic spooler and high speed warper. Each of these virtually revolutionized the efficiency and economy of the operations involved, and rank in fundamental effect and influence with Whitney's cotton gin and Drapers' automatic loom. A review of them will be of interest, particularly to younger men in the industry who now accept these things as a matter of course.

Son of a Methodist minister, Howard Colman grew up in Wisconsin. When he was about 16 or 17, a cotton mill superintendent who was a neighbor pointed out to him the need of a machine for drawing the warp threads into the eyes of the loom harness. The boy's imagination was fired and he immediately started to work on the idea, and built a small model to illustrate the principles he had in mind. Some time later, he built a better model of iron and steel, on a hundred dollars borrowed from W. A. Barber, a Wisconsin lumber man.

In 1892, when he was 19 years old, he tried out the model in a small cotton mill in Janesville, Wis. The results were encouraging, and the following year he moved to Rockford, Ill., where Spengler Bros., a job shop, built the third machine in 1894. At about this time, young Colman invented the check pump, a device for measuring milk, which proved very useful in the numerous creameries that dotted Wisconsin. This was the first patent issued to Mr. Colman.

With the money received from the sale of these pumps, and further assistance from Mr. Barber, young Colman built another model drawing-in machine which he took to the Boott Mills in Lowell, Mass., in 1895 for trial. An opportunity came for the sale of the machine to Draper Company, but the inventor did not consider it completely satisfactory, and took it back to Rockford. In 1899 a revised model was installed at the Merrimack Mills in Lowell, and Mr. Colman spent the entire summer running it in actual mill operation. He was still not satisfied, and returned to Rockford for further redesigning. It was on this trip he conceived the idea of tying-in the warps, instead of drawing them in, but did nothing about it immediately. Also at this time he conceived the idea of a hand knotter for spooler girls, and by 1900, 10 of these were tried out at Merrimack with amazing success.

H. D. Colman

The success of the hand knotter and further study of the warp replenishing problem led Mr. Colman to abandon for the time the idea of drawing-in warps, and into the development of the warp-tying machine. The first one tested out—in 1904 at Olympia Mill, Columbia, S. C.—went into immediate production with no major alterations, and the machine rapidly received virtually universal adoption.

In 1900, among other projects, he started work on automatic spooling and warping devices; in 1912 the first model of the present type of automatic spooler was installed in Bemis Bro. Bag Co.'s mill at Bemis, Tenn. After 10 more years of development and testing with three complete installations in Bemis mills and one in the Pacific Mills, Dover, N. H., the present automatic spooler with the high speed warper had been developed.

Mr. Colman started business alone with an idea, and left behind in the Barber-Colman Company an organization employing approximately 3,000 men and women, engaged in the manufacture of textile machinery, machine tools and cutters, electrical equipment, and molded plastics. Space is too short to give a list of his inventions, but they covered many fields outside of the textile art. He found his greatest pleasure in experimental work and has left behind research departments in every branch to carry on his developments.

While he never attended an engineering school, he ranked among the first engineers in the country, and in 1935 the Franklin Institute awarded to Mr. Colman the Longstreth Medal for a most outstanding contribution to the textile machinery art, as represented by the automatic spooler.

## Cottons in War Show

The hundreds of cotton products used to clothe, equip, house and transport the armed services are displayed as part of the Quartermaster Corps Exhibit accompanying the War Show now touring the country, according to The Cotton-Textile Institute. Cleon Throckmorton, noted stage designer, designed and constructed the exhibit.

Thus far the War Show has attracted thousands of spectators in the cities in which it has been shown. The show will tour the major cities of the country between now and October. It is planned to keep the exhibit intact for a second winter tour and for showings at selected public events.

In accepting the exhibit for the Quartermaster Corps, Major General E. B. Gregory stated, "It is with great pleasure that I learn that details have been worked out for the inclusion of The Cotton-Textile Institute's display in the Quartermaster Corps exhibit with the Army War Show.

"I feel that this presentation by the industry to the Quartermaster Corps is a further evidence of the fine spirit of co-operation and helpfulness which has marked all of our relationships with the members of your organization. Your display will be of great assistance in showing our people the truth of our frequent statement that the American soldier is the best clothed and best equipped fighting man in the world."

**A prominent operating executive discusses a critical problem in the industry today**

# TRAINING SUPERVISORS

**By Allen Jones**
**General Superintendent, Muscogee Mfg. Company**

THE EXPRESS purpose of this article is to stress the importance of the personal approach to, and the personal side of, training supervisors. The need is so great and the time is so short to train these men as our part in the national war program, that the temptation is to adopt one of the well thought out training courses, turn this over to a corps of instructors and start grinding out supervisors. We cannot turn out supervisors like tanks and guns—each of them is an individual, and is going to react in his own way to the training program.

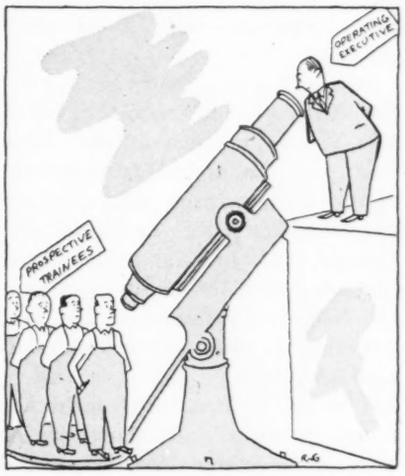
In developing my subject I want to discuss personalities and traits; the things you and I have to possess to make the training programs within our organizations successful; the traits you look for in the men to be trained, and the traits that some of these men will develop when they are placed on the job. I feel that, regardless of what plan is chosen, the lasting benefit will depend largely on a study of the personalities involved.

We think we choose our foremen, but to a great extent we pick them from the men we chose for minor positions years before. So in starting our training, let us put ourselves in the right frame of mind, to choose wisely.

The first thing we operating executives need is an abiding faith in people as people, the faith that can recognize them as real personalities, each with his own ambition for the future, his own home life—men who are just as anxious as we to make a success of the company's business. So when the vocational education people, the Training-within-Industry staffs, and other agencies come to us with plans for a broad program to meet the present emergency — let us forget our usual defense against new proposals and listen.

Then we will need another trait —a kindly interest in people, that faculty that makes others feel at ease and encourages them to discuss freely what they have on their minds. It is only then that we can get the full import of what the proposed training program will mean to the plant: the solving of the present shortage of supervisors and bringing in benefits that will remain long after the present emergency.

The higher operating executive can develop this kindly interest in people by making frequent contacts with the line organization in the plant. No better time can be spent than taking an occasional trip through the plant, and noting the attitudes of the people towards their jobs, stopping occasionally to chat with them. When they feel they know us they will open up, and we can learn a lot about the job from them.




*Putting them under the microscope to discover personalities and traits and qualifications.*

They will tell us what their problems are, what they need to learn, and how we can help them. Including these suggestions in the program will round out the scope of the training and take out the guess-work, for we will have incorporated the essentials of what the men themselves want.

For years our mill has co-operated with the Columbus Public Schools and State Department of Education in conducting within our plant hundreds of unit technological and fixing vocational courses for our employees. Potential supervisors began to show up in these classes. Then using the lesson and conference procedure techniques in which Georgia School of Technology had trained a group of Columbus mill production supervisors, we started to build our supervisors' course from the ground up. This course is specialized to the highly specialized supervisory work of our mill.

We have used our higher line supervisors to analyze and build up the subject matter of the training course. We have called in manufacturers' experts who have made further contributions. Then our higher supervisors pored over machine catalogs and line drawings furnished by the makers of our machinery. Then to be sure that these supervisors used the right kind of personnel subject matter, books on foremanship were purchased.

The higher operating executives should actively participate in the preparation of the program. In our discussions we will probably

This article is an adaptation of an address delivered by the author at an industrial relations conference at Oklahoma A. and M. College, Stillwater, Oklahoma, sponsored by the college's division of engineering and division of commerce in co-operation with the state department of vocational education.—THE EDITOR.

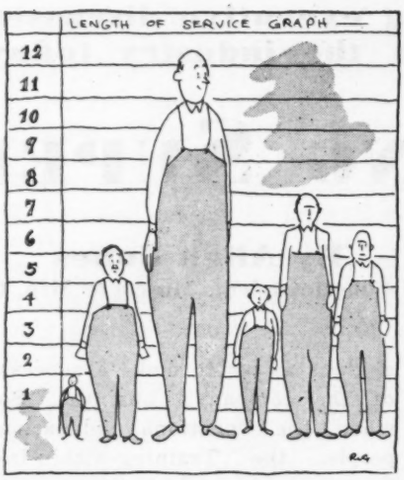
have learned things about our present supervisory morale that we did not suspect. Many supervisors were promoted during the lean years of the depression when you probably did not have a regular program. They have had to learn the hard way. They were just promoted and such help as was available was given them. They had no basic training and no regular instruction. Our attitude towards them was that we were using them to fill a gap, and the rank and file have accepted the cue from us and have regarded them just that way.

Do they have authority in line with their responsibility, are they consulted about things that concern their jobs, and are their suggestions given proper consideration? Are they paid in accordance with their responsibility and in line with other similar jobs in the organization? These are all vital matters in the proper setting up of the training program.

Always we must realize that the supervisor is the key man in putting this training across. He is the connecting link between management's program and the man to be trained. So the first real good to be accomplished is in building up morale, doing what is necessary to help him run his present job, so he will put his whole heart into the training plan.

Before taking up some of the essential points of the training program, the higher operating executives should lay the cards on the table about why we are going into training in a big way. It is so easy to create the impression that we are doing it for betterment of our fellow man, when in reality it is for the purpose of developing men to run our plants, to turn out more goods and make more profits. The sooner this idea is gotten across to the men —this frank statement of facts— the better will be the reaction.

Another trait that we need is judgment in picking the right men for the jobs. We must not just train a lot of men for jobs, and assign them haphazardly. We must study each man's special aptitude and temperament. Abilities can be developed if the native aptitude




*To pick a man for length of service alone is a mistake.*

is there. No need to try to train a man for a supervisor—a leader —unless he has leadership capabilities.

Owen D. Young said: "The biggest problem today is to get hold of and train men who can stand the gaff of leadership."

The basic essential of leadership is character. No matter how many other good qualities a supervisor has, if he lacks character you will have to replace him eventually. But if he has character we can always use him even though inexperience may cause him to fall down on his first job.

Leadership not only implies getting people to do things willingly, but also implies the leader himself accepting and carrying out instructions from his superiors in the same willing way.

Leadership also implies the poise to handle whatever the job may bring—to take it in one's stride.

So much has already been written about what to teach that I will just touch on some of the items that must be included: the foreman's place in the organization, his responsibility and his authority, the human relations of his job, his place in the community, handling grievances, accident prevention, fire protection, managerial problems that turn up in his work, and careful guidance about reading and studying for developing wider knowledge and culture.

This last item is a new addition to training programs. Developing a wider outlook in supervisors has become necessary during the past few years when industrial relations have widened so radically.

Supervisors who have been promoted from the ranks principally because they were skilled mechanics and good mixers frequently feel the need of something to broaden their understanding of human behavior. What they really lack is self confidence in their ability to make the right decisions. And when you realize that, as Dr. Richard S. Schultz says: "A foreman is a combination of a craftsman, teacher, supervisor, business man, arbitrator, salesman, and representative of management in its broadest scope", you can see he needs more general knowledge than he had when he was on the bench or operating a machine. It is for this reason that training courses are including the widening social outlook so increasingly necessary in arriving at the human relations decisions the foreman must make on his job.

Not only will such reading and outside study tend to facilitate the supervisor in the foregoing situations, but it will make the supervisor more interested in the conference meetings in the plant. And owing to his general information and the confidence which that builds up in him, he will enter into the discussions, propose problems which he has had in his department and benefit from the suggestions of others. Not only this, but a general knowledge will make him appreciate more of the finer things of life in his home and in the community.

As so many industries are specialized today, it is almost necessary that advancements be made from within the organization. One very fruitful source is the skilled mechanic who works well in the group. Such a one knows his people as well as his machines. So why not promote him?

Dr. Richard S. Schultz gives this advice about considering men for promotion to the supervisory force: "Does he like to work with people or with things? How does he get along with people?"

This certainly should make you hesitate about picking good me-

chanics for promotion just because they are skilled workmen. So many of these men have become so expert in their work and have taken such a personal pride in the product that they have unconsciously built into themselves the thought that perfection in operation is their goal. When you place one of these men in a supervisory position, he will very likely expect every other man to reach the same *mechanical* perfection, and in so doing fail to put into practice all the other *psychological* fundamentals of supervision.

There are many other skilled mechanics who will make fine supervisors, and the foremen should be able to pick them out for supervisory training. Such are men who have donned overalls for the practical experience necessary for advancement, men who have burned the midnight oil, who have availed themselves of every chance to learn, who have sought transfer from one machine to another. Every department needs men of this type, men who know the mechanical side of the job from the ground up, and who are still young enough in their ideas to absorb the other phases of personal handling, and become all-round good supervisors.

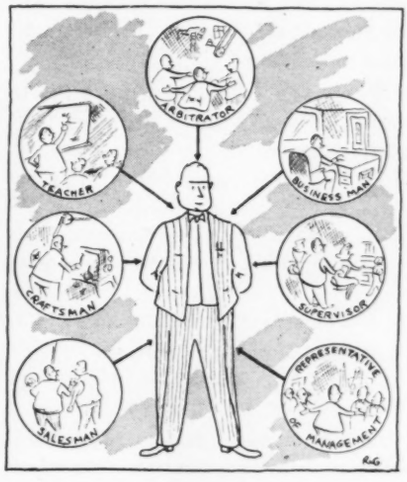
Length of service is another basis for picking supervisors. Why not reward the man who has been so faithful for so long? Whether to choose a faithful employee all depends upon what he has been doing to improve himself through outside activities and studies. Just to pick a man for length of service alone is a mistake.

Somehow staying too long a time on one job develops in a person a fixed attitude toward his job and life in general. He has seen bosses come and go, he has become so accustomed to taking orders through the same channel that he has lost any keenness of interest in his advancement. He becomes complacent. Endeavoring to shake him out of this attitude by promoting him is a doubtful expedient.

There are many other faithful employees who have held ever before them the idea that some day their chances would come. They have studied other people who have advanced and have patterned their whole lives accordingly. Not only have they been industrious on the job, but they have kept abreast of the improvements in the industry. They have applied themselves and are ready. The same is true of supervisors in the various grades. They too have studied modern methods and have shared responsibility with some one below them. They are ready for the next job and to leave their own in good hands.

Younger men, the supervisors of tomorrow, should be encouraged to fit themselves for machine operators, and learn not only how to operate their machines, but through study to know why. Their chance will come some day, and they should be in line.

The young college graduates and the high school graduates who have taken special outside courses and have fitted themselves to handle the technical phases of the work are good material, if they are handled rightly. If they are to be trained for line supervisory jobs they should be required to work in the plant, starting as learners. This will give them an opportunity to see whether they like the work, like the people there, and whether the people like them. They should be required to do real work, so that they learn to respect the work and the worker who does the work. When they have been steeped in the plant atmosphere and have earned their promotion, then *and then only* should they be advanced.




*"A good foreman combines all of these qualities."—R. S. Schultz.*

Frequently college graduates come into the plant with the wrong attitude. They assume that what they learned at college entitles them to early promotion, entirely overlooking the fact that there are other qualities necessary to advancement—proficiency with machinery, facility in human relations, pleasing personal habits, industry, and many things not taught at school.

When they are started right and followed up to see that they continue their studies; when they are made to realize that opportunity lies ahead, if they will only apply themselves now, then "the sky is the limit" for those who have ambition and the will to do.

When the men have finished their training and have been placed on their new jobs, what are their reactions? They begin to have experiences from the very first day and one of the very earliest is the matter of personal adjustment. They find it difficult to "place" themselves, to hold their natural inclinations in reserve, to do what is to be done, to assume authority without becoming emotionally involved. Their pent-up ambitions and their prejudices tend to rise to the surface and influence their judgment. No sooner do they adjust themselves to one situation than it changes. This conflict of emotions will show itself differently in various types of men.

Regardless of the training every man has his own individual traits. They come from many kinds of homes, schools and other jobs. Some of these traits are good, many will have to be ironed out. It is here that so many organizations stop their training programs, when in reality the crux of training comes after the men are put on their new jobs.

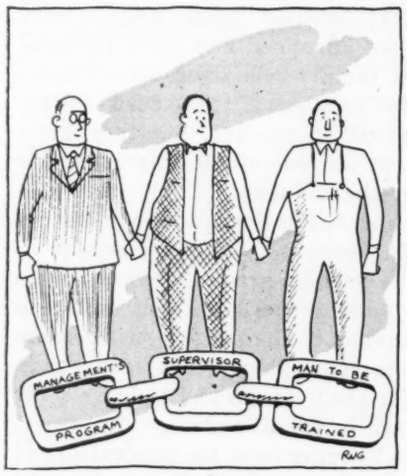
There are so many opportunities to correct just one fault in a man and make a real supervisor out of him. Just such little things as teaching him to follow up, to assume proper authority, to work with other supervisors, and so to conduct himself inside the plant, as well as outside, as to command the respect of the people.

Leaving the young supervisors who have been given their first jobs, we face a real problem in some of the old foremen. During normal times we have been content to overlook their faults and short comings because they had also basically good qualities. But today when we need every ounce of our energy to produce goods, we have no time to dilly-dally with these men. We cannot afford to work around them. We cannot overlook the attitude of their employees towards them. They have not changed with the rising tempo of the times.

Our first line of thought is this: Who is responsible for these men's failures to meet the issue? Are their failures due to some traits inherent in them, or to our treatment of them? Did we consider their natural aptitudes when we first started them up the ladder? Did we visualize them as some day holding their present jobs, and encourage and counsel them to prepare themselves for what the future had in store? Did we advocate lines of study and give them maybe a little personal talk about traits which were objectionable? In other words, were we as particular about their growth as we have been about the upkeep of our equipment, and the quality and quantity of our products, to say nothing of our costs and profits?

Every industry has the problem of the old-time foreman and the question of how to revamp his approach to problems in the light of today's conditions. This is serious. We have a lot of talent tied up in men who are not quite seeing the new approach to things. We can't afford to throw them into the discard, until we have done everything possible to revamp their points of view and open their minds to newer attitudes and methods.

Generally speaking, a man who holds a responsible supervisory job today is a full-grown man, thinks well of himself, has a considerable following, and honestly believes that, except for conditions beyond his control, things would be all right in his department. Breaking through this shell of complacency so that he can be




*The connecting link between management's program and the man to be trained is the supervisor.*

aroused to do the things which should be done is a personal problem—no matter what trait causes the condition.

Albert Walton, in his "New Techniques for Supervisors and Foremen" says: "Every man has a fundamental need and craving for a feeling of personal worth. It is true in every country and doubly so in this country, where as Bill Nye said: 'We are trained from childhood to the belief that every man is as good as every other man—and a darn sight better.'" The need for a feeling of personal worth is the basis of pride of workmanship, the mainspring of ambition. So when we undertake personally to help a man, to counsel with him, and to guide him along lines which will correct the trait in question, we must leave him with the impression that the change was brought about by things that he did, and not by our suggestions. He is allowed to "save his face".

Then there is the type who is eager to act on his own on personnel matters. He feels that it is a reflection on his ability to seek help when problems arise affecting people. He does not hesitate to call an engineer or chemist to help solve process problems, but when faced with a labor disturbance, he feels that to ask for help is an admission of incompetency for his job.

Another type hates to do unpleasant things, particularly when people are affected. This is not so much a lack of intelligence as it is a lack of moral courage. It frequently shows itself in refusing to admit mistakes and errors in judgment or to accept worthwhile suggestions or to give credit to others for good ideas.

Another type of supervisor is the complacent man. Complacency is a comfortable feeling. It is such a common habit to be complacent about our own defects that it might almost be classed as an instinct, the instinct of self-satisfaction. You may not think it true of yourself but you will have to admit that it is characteristic of everybody else.

This complacent man has a ready answer to all the questions, whether on his job or outside. One outstanding trait is his resistance to change. He is satisfied with things as they are and immediately bristles up when you suggest that a change of some kind is necessary.

Another type of supervisor who has trouble meeting present problems is the one with very little general knowledge and culture. He knows his job—in a narrow sense—but little else. He has come up through the mill on the basis of his native ability and has difficulty in orienting his ideas to present-day problems. He wants to do the right thing, he is not complacent, he realizes his shortcomings, but somehow he just cannot grasp what it is all about. He pretends to spread authority in his own department but creates the impression, on the part of his subordinate supervisors, that he can always pull them back for his last word of authority. He does not understand the principles of human relationship. In other words, people just do things; he doesn't know why.

A man like this likes to have the privilege of being left alone to live his own life, although once it is clear that he has the right, it is interesting and amazing to see how much he appreciates personal interest in him and how cooperative he can be.

Last but not least of the supervisors who are not putting their best efforts into the jobs are those with complexes that make for fail-

(*Continued on page* 96)

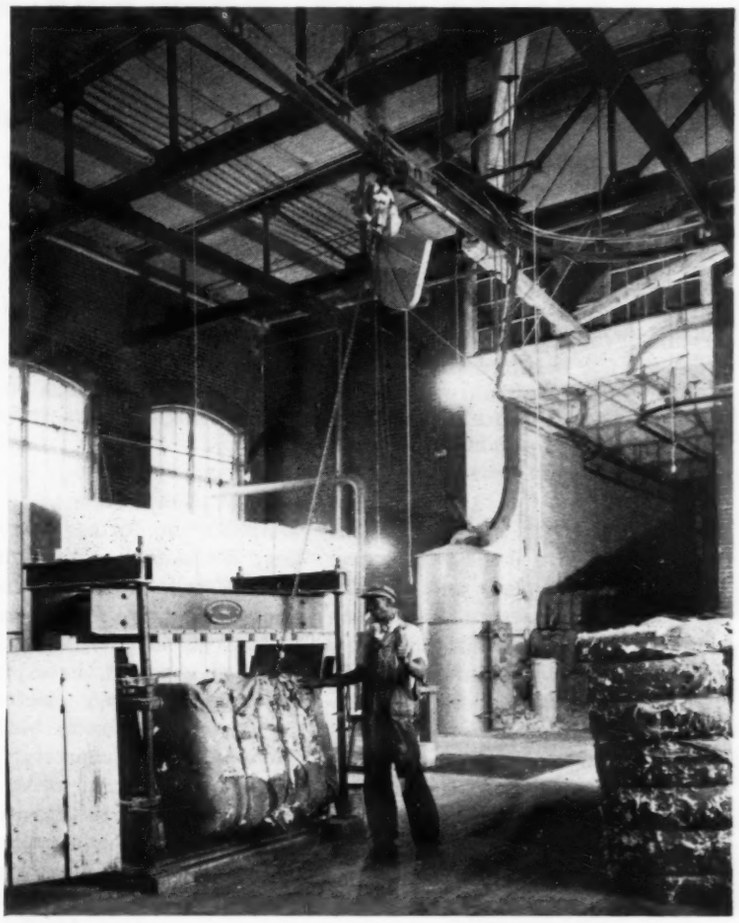
# A Novel Waste-Handling System

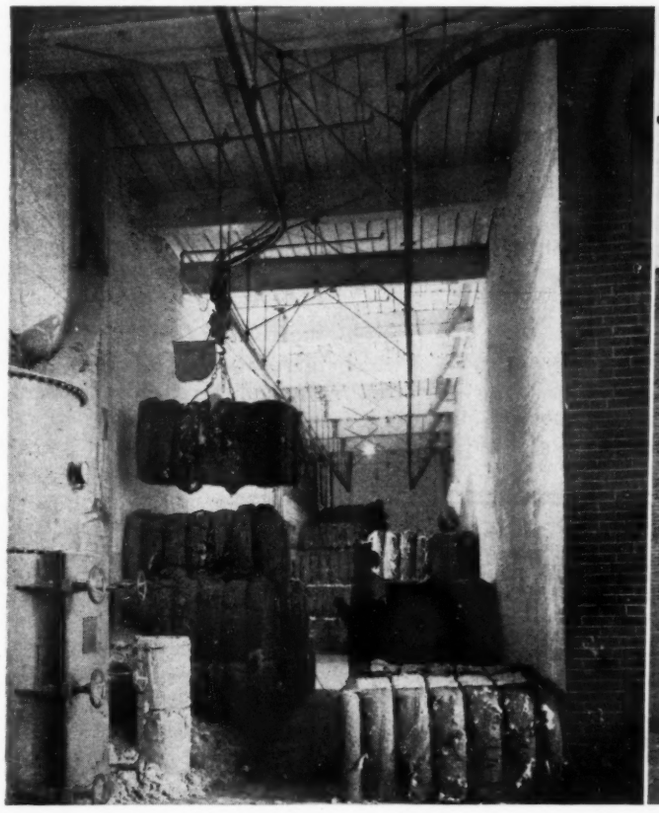
A NEW system of handling waste, as recently installed at the mill of the Gainesville Cotton Mills, at Gainesville, Ga., is illustrated in the accompanying photographs. It is used in the waste room for handling bales of cotton waste from the bale press to the storage area.

After a bale of waste comes out of the waste press (see photograph at right) it is picked up with a 1,000-pound capacity electric hoist, and the operator pushes this bale of waste back into the storage area (seen in the photograph at bottom left), which is located in an old, abandoned belt tunnel that could not be used for storage efficiently without the use of an overhead material handling system.

The system is completely electrified, with the exception of the trolley travel, which is moved by hand. In addition to handling the bales of waste to the storage area, the system is also designed so that the operator can pick up a bale of waste and push it out on the overhead track extending from the second floor door and load it onto a truck in the yard. (See photograph at bottom right). One operator now handles all of the work which formerly required three men.

The installation of this system was made by The American MonoRail Co., Cleveland, Ohio.





# MODERN RAYON FINISHING

**Article 4** **By Kenneth H. Barnard and Arthur R. Wachter**

**THE THREE previous installments in this series on "Modern Rayon Finishing", which appeared in the April, May and June issues, covered generally the subjects of rayon grey goods, the plant and equipment to be used, the chemicals and other materials. Starting with the current fourth installment, the authors take up the detailed processing of typical lines. This article is devoted to cuprammonium sheers. Later installments will cover, in a like manner, pigment crepes, men's suitings and shirtings, and women's dress goods . . . . . .**

THE PREVIOUS articles in this series have dealt with rayon grey goods, the plant and machinery necessary for processing them and the chemicals and other raw materials used in finishing. The real body of this paper is the detailed processing of typical lines of goods and in writing this, we have chosen as typical the following:

A. Cuprammonium sheers.
B. Pigment crepes.
C. Men's suitings.
D. Men's shirtings.
E. Women's dress goods.

Each of these topics will be considered separately and on each, a detailed description will be given showing the exact routing employed, the machines or special equipment required for the line in question and a discussion of the results wanted and how best obtained. In many cases, alternate methods will be given with emphasis on the best and cheapest as established by practical mill operation according to the latest developments and research. The first and one of the most important lines to be thus considered is that of cuprammonium sheers.

### Finishing Cuprammonium Sheers

The grey goods are removed from their cases, the ends sewed up and are then carefully wound in a roll with particular attention so that the minimum of tension is used to prevent fraying on the one hand, and on the other, sufficient tension is used so that no wrinkles are formed during winding. While these details may seem trivial, sad experience has shown that uneven dyeings, crease marks, crowsfeet, etc., will result in the finished goods if these precautions are even slightly neglected. Profits in this business come to those who have an infinite capacity for taking care.

The first step in processing these rayon sheers and a typical one in the treatment of many rayons is that of causticizing. The unit for this process has already been described, but the method consists merely in passing the cloth through 5-6 degrees Tw. caustic for about three minutes at 65 degrees F. (in warm weather, ice is used to get this temperature.) It is this relatively simple treatment that results in the nicely-rounded threads which characterize a high grade sheer and of course, the causticizing also results in shrinking the goods about 20 per cent, thus giving the cloth its necessary body and sales appeal. It is almost a physical impossibility to get the necessary width shrinkage on a triple sheer fabric without first causticizing. The construction of these goods is such that unless a balanced shrinkage between warp and filling is effected, regardless of any effort that may be later made in the finishing operations, a very reedy appearance is present.

The practical point that must be emphasized in the use of this unit is that the cloth must enter the solution perfectly flat, at full width, without a crease and as nearly like a sheet of paper as is possible for a piece of grey cloth. The first six seconds while the cloth is passing under the submerged reel are the vital ones. Any wrinkle or ripple there will show up later in the dyeing, but if the cloth runs as described, any difficulties later will be relatively minor ones. After being submerged in the dilute caustic, the excess is washed off as it goes through the first and second cascade washers, where a heavy flow of clean water hits the cloth with considerable force, before it passes through a wash tank at 120 degrees F., where the balance of the caustic is removed in a countercurrent manner. The low strength of the original caustic and the large excess of water used in rinsing it off makes the recovery of any caustic at this point an impractical procedure.

The next step is the boil-off, which is run at 180 degrees F. A few years ago, the standard formula consisted in the use of ¼ per cent by volume of a red oil potash soap. Some of the larger finishers made their own by boiling up a good grade of distilled red oil with caustic potash, carefully adjusting the final batch with carbonate of potash so that it analyzed not over a few hundredths per cent of caustic. The solids were so adjusted that a 50 per cent soap mix resulted and this was drawn off in open drums and allowed to solidify. For large users, this produced consider-

**The authors of this series of articles on rayon finishing were formerly associated with the Pacific Mills plant at Lawrence, Mass. Mr. Barnard is now director of product research for Pacific Mills at 214 Church St., New York City, and Mr. Wachter is head of the "Crown" tested department of the American Viscose Corporation, at 350 Fifth Ave., New York City.**

able economies due to the fact that it saved cooperage, freight and sales expense.

### The Fatty-Alcohol—Alkaline Detergents

Within recent years, as a result of new discoveries and applications, the use of fatty alcohol detergents, or an alkaline detergent in the amine complex, for use in the boil-off on these fabrics, has made great increases. When these are used in lower percentages, they are just as cheap as soap and even more effective. Perhaps not on an equal money value basis from a strictly material cost standpoint, but when the fact that these synthetic detergents result in better dyeings, particularly on heavy shades with less dyestuff, in fewer crease marks and in the elimination of rinsing, is realized, the over-all cost is strictly in their favor. Also, when using an alkaline detergent in the amine group, there is no danger that goods will become stained by lying in the wet state after boil-off and before dyeing. Sometimes goods cannot be immediately dyed after boil-off and are allowed to lie wet. If processed with soap, there is a real danger that some of this soap, which is not entirely rinsed out, may become dry and cause what is something termed a lime soap stain. This stain will act as a resist and very blotchy dyeing will result.

The temperature necessary for the boil-off operation has already been stated to be 180 degrees F., for best results. Lower temperatures produce a harsher hand in the finished goods and if too low, the sizing from the grey goods is not entirely removed which leads to resist spots and stains in dyeing. A higher temperature than 180 degrees is unnecessary and means a waste of good steam. Of course, a book could be written on the dyeing of rayons and in fact, many have been, so our story will be rather condensed on this phase of processing.

For a mill running large yardages, large becks are essential and we favor those of 22 feet in length which can be loaded with 6,000 yards of goods at a time. Within recent years, much progress has been made in the continuous method of dyeing on becks. After boiling off, seams need not be broken, but cloth can be loaded on becks just as it comes from the boil-off unit. This method is a good one because it gives added yardage in a beck load and again it assures a very uniform and even dyeing regardless of the different length of the pieces. It is also responsible for many savings. The original seam which is made when the cloth is sewed in the grey can be kept through every productive operation in the plant. This, of course, will save the cost of sewing the goods together after dyeing (if the single-strand method is employed) and also saves the cost of loading and stitching individual pieces on the dye becks.

There is another saving, that of loading cost. After a beck has once been loaded, the new lot which is to follow the one just dyed, can just be stitched to the last piece and while one lot is being unloaded, the same operation loads the new lot. Also the last rinse liquor, which is usually clean, can be used for dyeing of the following lot—a saving of both steam and water. In some mills, water is rather a costly chemical and in all mills, saving steam means added profits.

The colors used are largely directs and D and D's, since washing fastness requirements are not as rigid as for cottons. The becks are run at 160 to 180 degrees F., and the men cautioned in making changes, washing off, etc., to flush the solutions over the sides of the becks rather than to pull the plugs, as a rapid lowering of the temperature in the dyebaths is fatal.

When a continuous method of dyeing is employed, it is not necessary to bundle each individual piece of cloth as is necessary with the single strand method. The cloth is simply pleated into a box truck and allowed to drain for a few minutes and then it can be loaded into a hydro-extractor. In this way, a much greater yardage is extracted at one time. An extractor load is at least twice as much yardage when cloth is not bundled. Finally, the goods are opened up from the rope state on an opening reel which is a slow scutcher without tension bars and with an opening of about 1½ inches. The goods are then dried on a net dryer, or one without any tension.

### Framing and Drying

If the goods are to be printed, they must be framed to the proper width before entering the printing machine. If goods are boiled off with an alkaline detergent and a

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*A cuprammonium sheer fabric in the piece, draped on a model. (Courtesy, American Bemberg Corp.)*

little of the same detergent is used in the dyeing operation, a much better color yield is experienced in the printing operation. For peg colors, vats are generally used and while a few years ago special vats were thought necessary for rayons in contrast to the same colors for printing cottons, today the colors may be used interchangeably on both fibers. However, there is a difference in the drying arrangement at the back of the printing machine, as the hot cans ordinarily used for cottons are bad for rayons.

The printed rayons are either dried in tower dryers, which is the best method, or are run over cold cans at 140 degrees F. In either case, the vats are next developed in the usual vat ager and then go to the rope soapers. Here sodium perborate is used occasionally to complete the oxidation of the leuco colors, but strangely enough, it is bad practice to use soap in soaping these prints, due to the fact that it usually leads to marking off of the colors. It is better practice to use fatty alcohol detergents with a light nip at the end of the soaper, then hydroextract, through the opening reel and net dryer.

The printed or dyed cloth, as the case may be, is now ready for finishing, the first step of which consists in the addition of a softener on a two-roll mangle or quetsch. If at all possible, equipment should be so arranged that the cloth passes through the two-roll mangle or quetsch onto a conveyor which feeds the cloth into the dryer. This is important, because any pull or stretch while the cloth is wet is permanently setting the finished character of the cloth. To prove this, take a single filament of yarn of about 18 inches in length, wet this yarn by holding one end in each hand under tension. If you will then allow it to dry without any tension whatsoever and then measure the strand, you will find that you have gained at least 10 per cent in length. If you now take this same piece of yarn and re-wet without a bit of tension and dry without a bit of tension, you will find that you cannot recover by shrinkage the damage that has been done by the tension while in the wet state. Absolute care must be taken that the goods are not even slightly pulled or held under tension while they are wet. No damage is done to them while they are wet in the dye becks, because they are in rope form, but damage can also be done if not properly opened after dyeing. The moment a fabric of this kind is no longer in rope form, tensions should be entirely eliminated.

### The Cationic Softeners

The modern cationic softeners are being used in increasing quantities for this purpose to avoid the possibility of a tendency toward developing odors and to yellowing, formerly involved in the use of sulphonated tallows or oils and the greasy feel sometimes produced by those products if used in large amounts. These synthetic materials have none of these defects and, besides, give a better drapy hand which persists even after the finished dresses are cleaned, whereas, the older finishing materials went down the sewer the first time they went to the cleaners.

Another added advantage is the fixing effect of these cationic softeners on some direct colors, rendering them appreciably faster to washing. There is a dark cloud to this silver lining, however, in that the light fastness of many direct colors is adversely affected by their use. All colors are not affected to the same extent nor do all of the directs, for instance, react the same way. The matter is further complicated by the fact that no two cationic softeners react the same way either, so that the only really safe procedure is to be sure and try out carefully the colors you are using with the softener you select to be doubly sure that you are getting all the good results possible with none of the deleterious ones.

After the softening operation, the cloth is, of course, dried and framed for final width. When framing any pigment cloth for finished width, especially a rayon sheer, it is very important to carefully adjust the steam flow when the goods enter the frame. Excessive steam will cause the goods to sag in the frame. This results in bowed goods and also excess width. These mistakes are sometimes hard to rectify and are very costly.

Another important caution is the temperature at which the goods are dried. It is well to watch this carefully in all drying operations: after dyeing, and before printing, drying after printing and drying after application of softener. All dryers should be just hot enough to give the necessary drying results and at no time should productive speed be allowed to interfere with proper and good workmanship. Goods, of course, must be thoroughly dried but not baked. An excessive drying temperature does two things. It dries the goods all right, but it also bakes the yarn and the result is a harsh crispy handle which is altogether undesirable to the trade. It is hard to say at just what temperature a dryer should be operated, because mechanical features of different types of dryers vary. We can only say, a responsible operator must constantly watch the cloth as it leaves the dryer and at no time should it be allowed to come out too hot to handle.

When a sheer is badly handled through the dryer, no amount of framing can ever make it look like a finished piece of goods. It looks like rough dry laundry. When this is the case, the mistake can be rectified only by decatizing. If every precaution is used, goods nicely and evenly passed through the two-roll mangle, allowed to drop on the conveyor which carries them to the drier without folds, wrinkles or creases, care exercised in the drying operation, watching especially to see that the hot air current in the dryer does not crease double or wrinkle cloth while still a little wet, no difficulty should be experienced, and a regular framing on a 60-foot coil heated frame, without air current, should give a beautiful finished result.

If a blower type of frame is used, very little hot air should be allowed to hit the cloth—just enough to dry the small amount of setting steam used on the cloth while entering the frame. It is sometimes wise to not use any air

(*Continued on page* 96)

# Some Causes of Grievances

**By W. M. McLaurine**

**Secretary-Treasurer, American Cotton Manufacturers Association**

BAD CHILDREN are often the result of poor rearing. The parents may be saints and sinless in their piety and yet the handling of their children may be woefully lacking in intelligence and direction. All people are trainers in the realm of conduct and pure piety is not enough. Training requires an understanding of the needs and the motives of mankind and an ability to direct these motives into channels that will produce social reactions that are wholesome in serving the needs.

People are not naturally bad. They are not contrary and recalcitrant and mean except for possibly three or four outstanding reasons. One reason may be that of some abnormality—some mental quirk or psychic twist that cannot be cured, or can be cured only by long and difficult treatment. These cases are rare and if their abnormalities are so great that they constitute an interference with co-operative production and management, then these people must be eliminated.

Another reason is some physical cause such as indigestion, insomnia, anemia, eyestrain, headaches and many other ailments. Such troubles are not manifestly evident to the supervisor, but he is constantly aware of the nervous irritations of these people and the frictions caused by them. This is a most important factor in industrial life because healthy bodies are necessary for healthy minds. There are hundreds of illustrations available to show that many would-be fine and co-operative workers are classed as trouble-makers. More than likely some physical defect is preying upon their nerves and causing these unwholesome reactions.

The place of the medical clinic in southern industry has not been sufficiently recognized yet. If it is recognized, it is largely for the purpose of relieving evident ailments. The unseen sickness is often more powerful in its influences than the evident sickness.

A doctor belongs most demandingly in an industrial organization that wants the most effective co-operation available. There should be a thorough medical examination for employment, and whenever needed, workers should be given a thorough inspection. We shall be bold and say that this doctor should know something about psychology.

The foregoing statements may sound to some as highly theoretical. They are not. They are the advance guard to a healthy and healthful industrial relations that promotes good public relations. Men that are well placed, men that are satisfied and happy are the best advertisers in the world. Workers must be cured of their physical illnesses so that their industrial illnesses will be cured.

Among the most common worries of the day are financial worries, economic illnesses. This does not mean that people have an insufficient income which produces this. It means that the average man or woman, regardless of class or occupation, is a poor financial manager. His or her income, which is, in most cases, amply adequate to prevent any mental disturbance, is expended in unwise and senseless ways and then when payday arrives, with income or more all spent, economic nausea ensues. This is a world malady but it needs consideration. Industrial leadership involves economic leadership of its people, in order that economic distress may not develop. It is difficult to know how to handle, but it is a problem that must eventually be solved. There are too many trained salesmen scrambling for the worker's dollar and the average worker is not as resistant as he might be. He needs training in the elemental principles of economics. Thrift and frugality are still important factors in happiness. Financial worry is very disconcerting and must be cured. Proper care and expenditure of income will make more people happy than many Sunday sermons. Money is the background of much unrest. It develops peculiar and eccentric thinking. The problem must be solved.

Finally, we come to the attitude of the supervisor. It is an old saying that an institution is but the shadow of its head. A department or group of people largely reflects the attitude of the leader. Strength and weakness in the group are evidences of the strength and weakness of the leader. Most people watch the mechanical processes almost to the exclusion of the human processes. They watch the machines for defects, for breakdowns, for inefficiencies. They oil the parts and repair them and with the utmost diligence, see that every machine is as near perfect as possible. Behind every machine is a person that develops defects, breakdowns and inefficiencies and too often nothing is done to repair these defects. Too often the human machine develops friction because of a lack of oil or some little repair necessary. Just as the physical machine needs care and repair, just so does the human machine need care and repair. Personality is a big factor in any industrial program. It requires constant care.

Supervisors of labor must be constant students of people. No two are alike and all tend to go "haywire" occasionally. The real leader is a constant student of his group and is always doing whatever he can to make the group work in harmony with each other so that a loyalty and love for the industry will be developed that will scatter all over the plant and out into the community for good.

**THIS IS the tenth of a series of short articles by Mr. McLaurine, prepared especially for "Cotton", discussing various phases of public and industrial relations work and problems of textile mills.**

**The series is in keeping with the current, active policy of the American Cotton Manufacturers Association in this sphere.**

# Gearmotors and Motor Enclosures for Textile Machine Drives

**By J. Z. Linsenmeyer**

Westinghouse Elec. & Mfg. Co.

**THIS IS a comprehensive discussion on the selection of motors and gearmotors for individual drives on all types of textile equipment, with particular emphasis upon the mechanical modifications involved. It is in two parts. The first, herewith, deals primarily with the engineering aspects of gearmotors on these applications; the second, to appear in an early issue, will continue the discussion with treatment of the various types of motor enclosures and their selection to fit the specific textile applications.**

ELECTRIC MOTORS are available in a wide variety of electrical and mechanical modifications to suit various industrial applications and operating conditions. The full and proper use of these various types results in a plant with the most efficient and compact design and with a minimum of personal hazard and maintenance.

In textile mills, especially in the finishing divisions, there are numerous machines requiring a low speed drive. The considerations pertinent to the selection of a suitable individual drive for these machines will reveal the fact that for the best performance and most economical installation small or medium size motors, especially alternating current machines, should operate at comparatively high speeds such as 1,150 or 1,750 r.p.m. Lower speed motors are of course available, but for most cases where the machine drive shaft speeds are 900 r.p.m. or below it will be found more economical to use a higher speed motor with some form of speed reducer.

The method of obtaining the required speed reduction should satisfy certain fundamental requirements such as compactness, low cost, neat appearance, a minimum of wearing parts, long life and proper enclosure to meet safety requirements. The gearmotor closely meets these requirements. Briefly —the gearmotor is merely a mechanical adaptation of a geared speed changing unit to any of the various types of alternating or direct current motors.

The advantages of the gearmotor over the slower speed motor may more readily be appreciated by a consideration of Table I which was prepared on the basis of using a 5-hp squirrel cage alternating current motor for direct drive at 600 r.p.m.

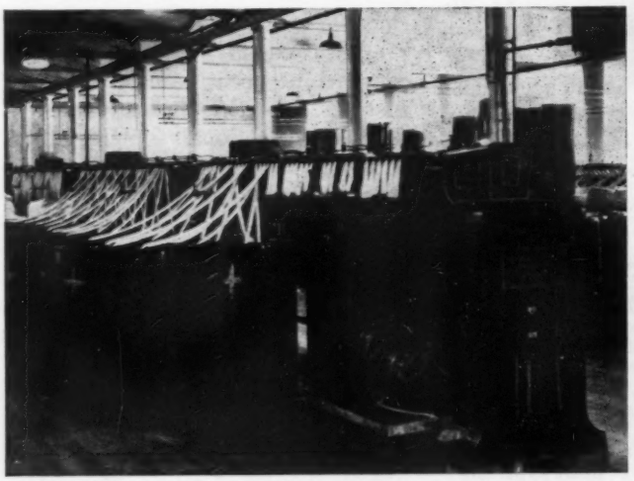
It is evident from Table I that even including the gear loss of 2 per cent the gearmotor at 600 r.p.m. has the advantage from all points of view.

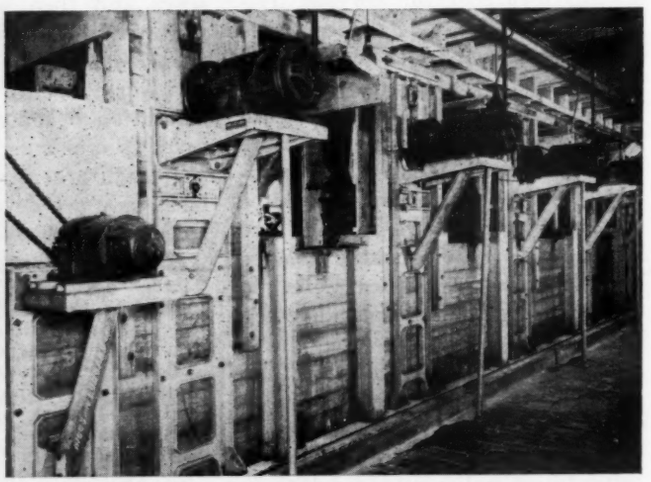
As the gearmotor may utilize any

**TABLE I**

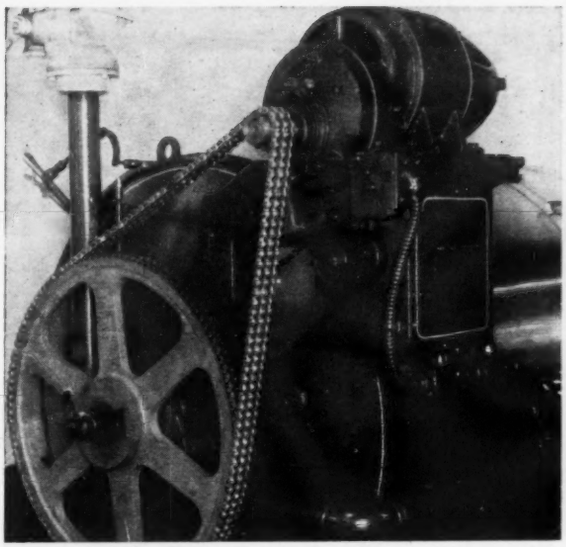
| Type of Drive | Efficiency ½ Load % | Efficiency Full Load % | Power-Factor ½ Load % | Power-Factor Full Load % | Starting Torque+ % | Approximate Price |
|---|---|---|---|---|---|---|
| Gearmotor* | 81 | 82 | 81 | 90 | 150 | $151 |
| Slow speed motor | 79 | 81 | 46 | 66 | 115 | 194 |
| Gearmotor advantage | 2 | 1 | 35 | 24 | 35 | 43 |

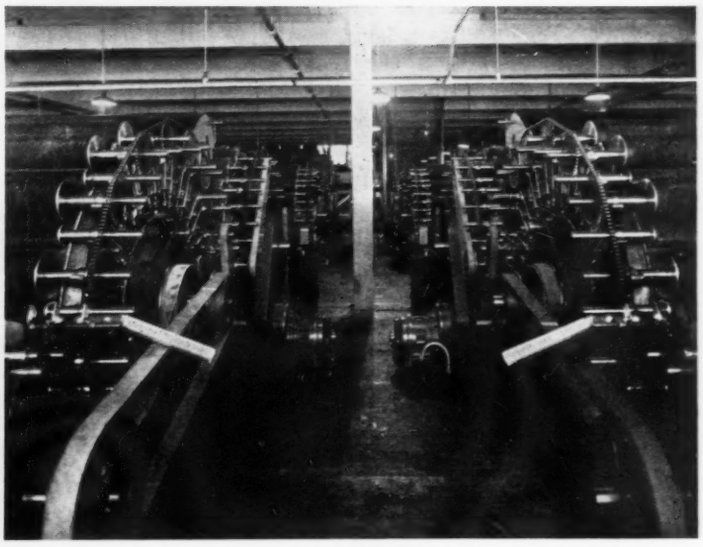
*Efficiency is based on entire unit including gear loss of 2 percent.
+Starting torque is based on percentage of full load torque.





*Left, Fig. 1, a single reduction gearmotor coupled to drive shaft on a drawing frame. Right, Fig. 2, 3-hp. special reversing double-reduction gearmotors driving the rinse section of a continuous cloth washer . . . .*





*Left, Fig. 3, a special reversing single-reduction gearmotor with output shaft offset below the motor shaft, driving a laundry washer. Right, Fig. 4, single-reduction gearmotors installed on cards in a woolen mill.*

of the various types of electric motors, the factors pertinent to making the proper selection and application of any electric motor apply equally to the gearmotor. To determine the most suitable motor consideration should be given to the factors outlined below.

1. Load Characteristics:
   Friction or inertia, continuous or intermittent, steady or pulsating.
2. Mechanical Features:
   Method of mounting, type of enclosure, etc.
3. Electrical Characteristics:
   Starting and maximum torques, speed regulation, type of insulation, method of ventilation.

A discussion of several individual machine applications will perhaps best illustrate the manner in which the factors outlined affect the selection of the drive. For example, consider the difference between the drive requirements for the drawing frame, (Fig. 1) and that of the rinse section of the continuous washer range (Fig. 2).

The requirement of the drawing frame drive is simply one of continuous operation under steady load conditions, with normal starting torque, and with no demands for any special motor characteristics. A standard general purpose alternating current squirrel cage induction motor with single reduction gear assembly provides a very satisfactory drive. As may be seen in the illustration, the gearmotor is direct coupled to the drive shaft on the drawing frame, thus saving space and providing a very neat and compact arrangement.

The gear section is shown mounted in the top quadrant which provides the best drive arrangement in this particular case. However, this unit can readily be provided with the low speed shaft displaced in any of the four quadrants. Fig. 3 shows the same type gear unit applied on a laundry washer drive, but displaced in the lower quadrant, thus providing a more satisfactory mechanical arrangement to meet the drive requirements of this washer design.

The rinse drive operates on a duty cycle requiring continuous reversing from full speed in one direction to full speed in the opposite direction at a rate of 6 times a minute. Such an application requires special consideration of motor torque characteristics.

It is well known that there is considerably more loss in the induction motor during starting and plugging than when operating at rated speed. During the starting and the accelerating period up to rated speed, approximately 50 per cent of the motor input goes into ($I^2R$) loss in the rotor and during the plugging period there is roughly three times more loss in the rotor than during the accelerating period. A motor to be used for frequent plugging service, therefore, should be designed to provide a high torque at a minimum of current; i.e. with a high torque per ampere ratio.

The motor slip (synchronous speed-full load speed $\div$ synchronous speed $\times$ 100 $=$ % slip) is roughly a measure of motor loss or inversely motor efficiency, consequently the high slip motor is undesirable where continuous operation at rated speed is required. However, where the application is one of frequent reversing operations the motor loss at rated speed is insignificant when compared with that during starting and reversing, and the high slip motor with its inherently high resistance to limit the starting current is the most suitable for this type of application.

Also, in order to reduce shock on mechanical parts when the motor is plugged from full speed in one direction to full speed in the opposite direction, it is necessary to design the motor unit so that the plugging torque characteristic duplicates the normal accelerating torque characteristic. The alternating current squirrel cage induction laundry motor was developed especially to meet the requirements of a laundry washer drive which is one of continuous reversing service. It can be appreciated that this cycle imposes a heavy duty on the gears, but the gear section is designed to meet the operating characteristics of the motor, and such applications are quite common not only in the textile industry, but also in other industries.

A card (Fig. 4) has a large revolving cylinder with a very considerable amount of inertia. After the card is brought up to speed it requires comparatively little power to drive it, but as is the characteristic of an inertia load, it requires an appreciably additional amount of torque to accelerate to its operating speed. As a general rule, the squirrel cage induction type motor must be able to accelerate to close to its rated speed in approximately 20 to 30 seconds in order to keep within a safe temperature limit. This requirement results from the high starting current taken by these machines as compared with their rated full load current.

The wound rotor type induction motor, on the other hand, may be used to operate over a long accelerating period by means of secondary resistance control. Resistance inserted in the secondary of the wound rotor motor will limit the current and torque, and the resistors will dissipate a very appreciable amount of the rotor losses. As the resistors are externally connected there consequently will be less heating within the motor. By means of secondary resistance control the motor torque may be adjusted to just overcome the static friction of the load and in this manner provide a soft easy start with a minimum of mechanical shock to the system. This is a desirable feature for a card drive and the wound rotor motor with secondary resistance control is quite often applied. However, the more rugged squirrel cage motor with its simpler linestart control offers less expensive drive, and is more generally used. The squirrel cage motors furnished for this application are designed with a higher than standard starting torque in order to accelerate the card, but not so high as to give too fast an accelerating rate, the torque being of a value to provide for acceleration in approximately 25 seconds.

Most kinds of cloth require certain finishing processes before they are ready for the market. Various machines are used for this purpose, and it is customary to arrange certain of these in range or train. A continuous web of cloth is run through this series of machines, and each machine is driven by an individual motor. Since one length of cloth is in all of the machines simultaneously, it is necessary that all machines must run at exactly the same average cloth speed.

To make the range suitable for a variety of fabrics and finishes, it is necessary that the machines be able to operate over a wide speed range. The drive for such machines must be arranged so that they may readily be adjusted for any desired speed over the operating range, where they must be able to operate continuously and with good speed regulation.

The requirements of this drive are readily and satisfactorily accomplished by driving each unit of the range with an adjustable voltage d.c. motor, and by providing a speed compensator between the machines in the form of a dancer rheostat which will adjust the motor speeds for any slight variances that might result from a varying load condition. Fig. 5 shows one of these range drives powered by double reduction d.c. gearmotors which operate over a wide speed range in an adjustable voltage system.

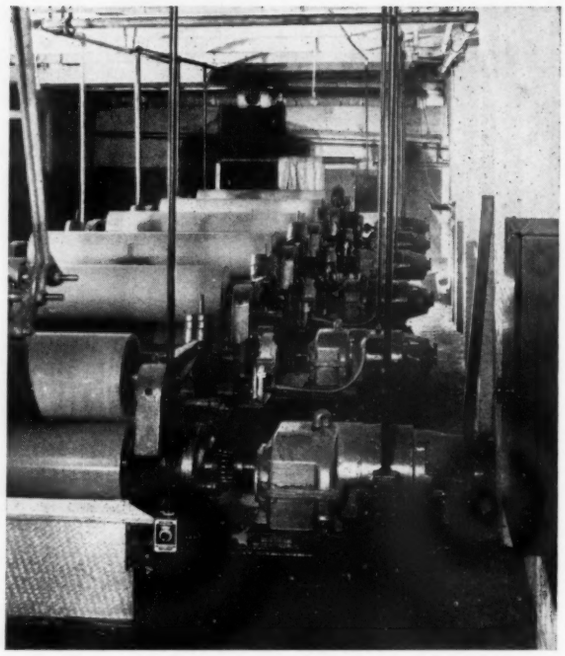


*Fig. 5. Double-reduction gearmotors coupled to rolls on washing range. These direct current adjustable voltage motors have splashproof enclosures for protection against water and other liquids . .*

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**(The second and concluding part of this article, to appear soon, will deal with the various types of motor enclosures and their selection.)**

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### Time Well Spent

Ed Barton's department had expanded more than almost any other department in the organization. This expansion had been accomplished with less turnover than any department in the mill. Moreover, it was accomplished in spite of the fact that the work in his department was both noisy and dirty —the kind of job to which it is difficult for new workers to adjust themselves quickly. Barton did not turn new workers over to an assistant or an experienced worker. He first had them in hand himself and spent a few minutes selling the job to each new man and making the best possible impression on him.

He personally took the new man around the department and pointed out the location of various places he would have to go in connection with his duties. Then he took the man to his work place and introduced him in a friendly way to the man who would be working nearest him. With each introduction he made some comment that gave the new worker a little knowledge about the man he was meeting. As a result he felt partially acquainted with his new fellow workers right from the start.

When someone asked Barton how he could afford to spend his time with each new employee his reply was, "I can't afford *not* to spend the time with them if they are to get off to a good start."—*Management Information, Elliott Service Co., Inc.*

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### Have a Plan

Don't tackle your absentee problem on a "catch-as-catch-can" basis. Don't tackle the problem piece-meal. Study your department absentee problem in its entirety, and then devise a plan to cover the whole situation.

If a department supervisor just goes on getting more and more irritated by absenteeism, without developing any thorough plan to improve the situation, little improvement can result.

So, analyze the problem. Identify the chronic absentees. Focus your attention on the chief offenders.—*Management Information, Elliott Service Co., Inc.*

# Report of Charlotte Discussion on Dyeing-Finishing Army Goods

A ROUND-TABLE informal discussion on problems connected with the dyeing and finishing of army goods was conducted by the Piedmont Section of the American Association of Textile Chemists and Colorists at its meeting in Charlotte, N. C., on Saturday evening, June 20. Normally, the section holds a social outing at Myrtle Beach each summer, but due to the war conditions, this was cancelled this year and a one-session meeting held in Charlotte instead.

The program was devoted entirely to an open forum discussion on how to improve the dyeing and finishing of fabrics for use by the military divisions of the Government. R. E. Rupp, superintendent, Pacific Mills, Lyman, S. C., was in charge of the discussion. Major Frank M. Steadman, in charge of research and development at the Philadelphia Depot of the U. S. Army Quartermaster Corps, was present, incident to attendance at a meeting in Charlotte that day of the committee on accelerated ageing tests for sulphur dyed fabrics, and participated in the evening informal discussion.

### Finishing Raincoat Fabrics

In opening the meeting, Dr. Rupp submitted as the first question, "In the dyeing of herringbone twill goods with vat colors, what preparation should the goods receive before dyeing?" There was no discussion on this point or on Dr. Rupp's subsequent question as to whether or not the goods are boiled out in the kier. The chairman then brought up the subject of finishing and dyeing goods for use in army raincoats, pointing out that until recently these goods had been rubberized, but that now they are being coated with synthetic resin proofing compounds, and he said he understood that the waterproofing treatment satisfactory for subsequent rubber applications are not entirely satisfactory when the newer synthetics are applied, and asked what sort of waterproofing would be satisfactory with the newer plastics.

Major Steadman said they have had no reports of difficulties where the rubberizing process was carried on through calendering, but that in the spread-coating method where the rubber compound was applied with a solvent, some loss occurred in the rubber coating. He said that for this new coating, plastics of the polyvinyl chloride types are being used, and also the vinyl co-polymer compounds, as well as polyvinyl butyrals, and that while they had encountered no difficulty from the waterproofing subjected to the calendering process there might be a problem in securing adequate repellency with the polyvinyl resins since stronger and more active solvents must be used for these resins.

Dr. Rupp said that one contractor had stated that the standard waterproofing of aluminum acetate and wax is very satisfactory for the rubber, but because of the solvents in the synthetic resins it is not satisfactory for use with them.

He said that of the non-soluble materials, casein was a possible waterproofing agent if it would stand up. Major Steadman said he could not say whether casein would stand up but he saw no reason why it should not especially if it had been set to any extent and that perhaps a formaldehyde treatment in combination with the use of casein might be satisfactory, but he does not consider that casein is a satisfactory water repellent finish.

The difficulties encountered, he speculated, might produce new methods of holding the water repellent finishes onto the fabric, even applying the waterproofing agent after the application of the resin to the fabric. He said it was conceivable that the application of the resin to both sides of the fabric might be considered, eliminating the application of any water repellent finish, but he expressed the hope that this would be avoided because double coating of the fabric would increase the stiffness which they wished to avoid, and he hoped it would be possible to solve the problem with processing only one side of the fabric.

John L. Crist of Southern Dyestuff Corporation asked whether the new synthetic plastics had been utilized because of a shortage of rubber or because these newer finishes gave better results, and the reply was quickly given that it was primarily a case of rubber shortage and the allocation of rubber to uses for which it alone would suffice.

### Blending Cotton and Wool

Chairman Rupp next presented the question, "In blending dyed cotton with dyed wool in the manufacture of army shirting, in what form should the cotton be delivered to the woolen mill for spinning?", and called on L. W. Cleveland of Beacon Manufacturing Co., Swannanoa, N. C. Mr. Cleveland explained that his plant is not doing any work of this kind, as it is almost entirely on army blankets, but that he understood some mills are blending slivers along with wool tops.

Asked by Dr. Rupp for a further discussion of woolen production in the South, Mr. Cleveland said that, "The only thing I could tell you about is what we are doing, and that is army blankets. There is quite a lot of work being done in the South, in fact a good portion of the army blankets and 32-ounce overcoating and 12-ounce linings are being made down here, but the great bulk is being done in the East where they have so many woolen mills. Most of the work in the South is on blankets and similar materials. I do not know much about the navy work, but I know that quite a few plants are doing work on the 32-ounce Meltons, but the great bulk of it, in the worsted production, is being done up in the East."

### Improving Wash Fastness of Pigments

Getting back to herringbones, Dr. Rupp asked, "Can the wash fastness of pigment colors for exposure to light be improved, or has it been improved?" Chester Robbins, of Aridye Corporation, producers of these pigments, volunteered that originally the results from the pigments in this direction had been disappointing, which he said was the penalty of pioneering, but he said that, "definitely it can be and has been improved. In case there are some here who do not know the story, I might say that pigment dyes were accepted as an alternate for herringbone twills, and we stepped into production

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Reported by Robert W. Philip.

A preliminary report of the meeting in Charlotte, with candid snapshots made there of some of the prominent participants, appeared on page 88 of the July issue of "Cotton".

The accompanying narrative account of the informal discussion has been checked and verified with those conducting the discussions.

rather hurriedly, and after it was subjected to washing, it broke down terribly in the No. 4 wash test. We placed the whole picture before Major Steadman and Colonel Painter, and they agreed that it was pretty bad, and as a consequence, we made some change in the formulation which showed an improvement, and we went ahead with the production of the new pigment and have been running it in one particular plant and we feel it is very good. We have not gone as far as we want to yet, but I can say that it definitely has been improved in fastness to ultra violet rays and in the wash test after exposure."

Samuel L. Hayes, of Ciba Company, Incorporated, Charlotte, asked Mr. Robbins whether the difficulty was found to be in the pigment itself or in the binder, and Mr. Robbins said that the test seemed to have the effect of breaking down the pigment and then breaking down the binder.

Major Steadman added that the initial samples and first deliveries of the pigment, on the actual wear usage test, did show definitely a breakdown, but "that is something that falls right back in your own laps; some of the vat-dyed samples were not much better, which I think comes right back to the question of the penetration which is being secured in the vat dyeing of herringbone twills. Maybe we have been too lax in our acceptance of the herringbone twills, but we needed the goods, and they are serving the purpose, but we have had kicks from the field over the vat-dyed herringbone twills not holding up so well. We know that good vat dyes are being used, but examination discloses that insufficient penetration has been the case far too often. We would like to see more and better penetration."

Dr. Rupp expressed the opinion that the solution of the problems in pigment dyeing is on the way and that, "somebody is going to put it over in the next five years, and dyestuffs may be as obsolete as trolley cars are today."

### Testing Fastness of Sulphur Colors

The chairman next brought up a question that had been submitted, "Is there any reason why sulphur dyestuffs should not be used on army goods?"

This touched on a subject that had been discussed at length in the morning conference covering accelerated ageing tests for sulphur-dyed materials. Major Steadman was asked for an expression of his opinion, and frankly stated that, "As I have said repeatedly before, there is little question about the suitability of sulphur dyes when they are properly applied. Our problem is, how are we going to tell when they are right? Until we can be in the position of your coming to sell us goods based on past performance and on the basis of meeting a set of specifications from which we can tell that the goods have been properly dyed—until we can know they are not going to tender from improper dyestuffs or improper finishing, we cannot recommend an action which will place the contracting officer in a position of being responsible for those goods personally and financially, in the event those goods at some future date tender or become worthless. I am anxious to see a simple, suitable and adequate test worked out to determine whether or not sulphur dye has been properly applied, using proper materials, but I do not believe we have yet reached that point with a test that is commercially available and practically useful."

The chairman next asked, "What sizing compounds should be used in the weaving of herringbone twill which will make the finisher's job a bed of roses?" This question had been submitted by one of the members.

Mr. Murphy, of Proximity Mfg. Co., stated that, "We make some herringbones, and we use a size that can be taken out of the warps when they are desized. Anything that contains a gum is detrimental. We try to put just as little starch in the warps as we possibly can and still have the weaving run good. We are getting by with 7 per cent. We try to stay away from the gums."

Dr. Rupp commented that, "As a finisher, I should like to say Amen to that. Use starch if you have to, and possibly a little bit of oil, but in general, the less sizing, the better."

The next question asked specifically what is meant by the 10-day weather test in Government specifications and it was explained that this means, conforming to the specifications of the A. A. T. C. C. itself, exposure of the material to 10 days in the weather, whatever that weather happens to be. The opinion was expressed in the meeting that this is not sufficiently precise, and that it would be better to have some allowances made for latitude, the time of the year, etc.

Arthur R. Thompson, Jr., of Ciba Company asked whether the Quartermaster Corps recognizes a test such as that made in the Weather-O-Meter.

Major Steadman said that neither the Weather-O-Meter nor the accelerated fading units have been accepted as standard tests. He indicated that until procedure is worked out on which reliably constant results from unit to unit may be counted on, these would probably not be acceptable. He explained that the complications in a test of this kind go even so far as to involve the effect of the ultra violet light on the glassglobe protecting the samples from the carbon arc itself.

"In dyeing 4-ply yarn for webbing, should the yarn be dyed single and then plied, or should it be dyed after the yarn is plied?", was submitted by the chairman.

Thomas R. Smith, superintendent of dyeing, Wiscassett Mills Co., Albemarle, N. C., and president of AATCC, said, "We are dyeing 8s/4 yarn in the single and plying it afterwards. This refers to package dyeing. Two-ply yarns are dyed satisfactorily in the ply. Four-ply yarn can be dyed satisfactorily in skeins. And of course a lot of this yarn has been dyed in raw stock. If there is a way to dye 4-ply yarn satisfactorily in a package machine after it is plied, we never have been able to do it." He told of a new plant just being started in Charlotte for the manufacture of this webbing and said that they are getting into production nicely, "with yarn dyed single and then plied."

Sulphur colors came back into the discussion with a question, "What is the objection to dyeing hosiery with sulphur colors?", and Major Steadman again stated his position as being that of having to know that the right kind of colors are being properly applied. From a production standpoint, Thomas R. Smith brought out that most hosiery dyeing machines contain monel metal, which will not stand the sodium sulfide in the sulphur colors on account of the copper content of the metal.

Major Steadman then spoke briefly with respect to some of the things the Government Procurement Divisions would like to see the textile dyeing and finishing industry produce, mentioning particularly the need for better flame-proofing treatments. He said there is a great need for a flame-proofing or flame-resisting treatment that can be applied not only on cloth in the piece, but also after it has been fabricated, and that the ideal treatment would be one which could be reapplied after laundering or drycleaning, in case it were not wash-resistant.

Dr. Rupp mentioned the possibility of using some of the insoluble stannates, or chlorinated paraffins. He closed the meeting by calling attention to the fact that Major Steadman had presented some very definite challenges to the industry, such as this one on the subject of an adequate flame-proofing treatment, and also the need of improving the application of vat colors, and pledged Major Steadman the section's fullest support and co-operation.

# A Safety Manual for the Mill

## By E. S. Greene

Engineer, The Aetna Casualty and Surety Company

## *Part Three*

### PURPOSE

**The purpose of this manual is three-fold:**

**First, it is intended for the textile worker to read, understand and follow to the best of his ability for the purpose of working in such a manner as to avoid injury to himself and his fellow worker.**

**Second, this manual is intended for the mill supervision to assist them in training their people to work without injury, and the safe practices outlined herein are to be taught and followed up constantly. It is essential to explain the hazards of his job to the new employee before he is turned loose on his job. It is just as important to check the habits of the old employee to make certain that he has not lapsed into dangerous habits and a careless manner of doing his work, as it is unfortunately true that "familiarity breeds contempt".**

**Third, this manual may serve as the basis of activities of any safety committee that might be organized. However, the committee should consider this manual not as a limit to their activities, but rather as a guide when needed.**

**It will be of interest to realize that every rule set forth in this manual is the result of an investigation of some actual accident that occurred in a textile mill in the Southeast.**

*(The first installment of this serial safety manual for the mill appeared on page 79 of the June issue, and covered general recommendations and the use of elevators. The second, covering the manufacturing departments, was on page 90 of the July issue. The third installment, herewith, concludes the series.—The Editor.)*

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### WAREHOUSES

1. Bales of cotton and cloth should be stacked evenly and well balanced.

2. Particular care should be taken with uneven bales to prevent tipping.

3. Passageways should be kept clear, and single bales should not be left where they will necessitate climbing over them in order to reach some other part of the warehouse.

4. When loading cars don't place yourself between a bale being handled and the side of the car.

5. Never force any of your fellow workers into a tight place.

6. When using metal gangway in wet weather and early in the morning, step with care, as the metal is more slippery than when absolutely dry.

7. Keep hands and arms clear of car doors when doors are being closed.

8. Use the mechanical car door opener and keep your hands off the door.

9. Avoid throwing bales down from stack to floor below.

10. Report to your overseer any splintered or broken floors so that they may be properly repaired before you fall into a hole or get a long splinter in the sole of your foot.

11. Walk, don't run, with your load.

12. Report, for repair, trucks with defective wheels or splintered or broken handles.

13. Keep to your own side of passageways and platforms, and give your fellow workers their share of space when passing.

14. When crossing gangways stay near the center, and look where you are going.

15. Don't get too close to the man in front of you when trucking bales, as you may be unable to stop when he does, resulting in a serious injury to his foot or leg.

### OPENING ROOM

1. Make sure that bales are steady and that there is no possibility of their falling over on you when your back is turned.

2. Always pull the motor switch before making any adjustment or repair on the opening machine. It is sometimes advisable to remove the belts also.

3. Don't lift more cotton at one time than you can handle safely. Work steadily and smoothly.

4. When cutting bale ties, keep your face as far away as possible, and don't permit anyone else to stand close to the bale.

5. Handle bale ties with care to avoid being cut, and pile them neatly out of the way.

### SHOP

1. Wear the proper type of goggles when engaged in any of the following operations: grinding, chipping, pouring molten metals as in bearings, welding, cutting with a torch, pouring acids, turning or drilling material that presents an unusual hazard from flying particles of metal or rust, when drilling or cutting directly overhead with the possibility of having chips fall in the eyes.

2. Goggles should be maintained in usable condition by keeping them clean and replacing defective and worn headbands, nosepieces, and cracked lenses.

3. Clamp work securely to drill press bed before drilling. Don't try to hold it with one hand.

4. When you go out into the mill to make repairs on a machine, make sure the machine is locked in the stopped position, or hang a warning sign on the starting lever or switch so that the employees around the machine will know you are working on it.

5. Provide yourself with the proper staging or ladders so that you can do your job safely and efficiently.

6. Learn what to do and what equipment to use in the event one of your fellow workers should grab a "hot" line and be unable to release it.

7. Do not try to operate any of the woodworking machines without having the guards in the protecting position.

8. When doing a job in the shop maintain as neat housekeeping as possible in the vicinity of your machine. You will turn out better work, and you are less apt to be injured by falling over your own material.

9. When oiling or greasing machinery don't apply so much that it runs over or is squeezed out onto the floor to present a slipping hazard to the people in that department.

10. See that drip pans under overhead bearings are emptied regularly and are not permitted to run over and form oily spots on the floor beneath.

11. When it is necessary to carry a flammable liquid or cleaning solvent into the mill, use a safety container and not any old tin can or empty bottle.

12. Never attempt to straighten work in a lathe while lathe is running. Stop it off first.

13. As soon as any crates are opened, bend the nails down to avoid injury from the sharp points.

14. Never sit on the side of a truck body when in the village or on the highway.

15. When cutting the electric current or steam back on after making repairs, be sure first that everyone is in the clear.

## MAINTENANCE OF ELEVATORS

In too many cases elevator inspections are sketchy and slip-shod, and the maintenance of the equipment is not followed as strictly as this important equipment warrants.

A detailed and thorough inspection of elevators should be made monthly in addition to the regular lubrication program. The inspections should be entered on special forms designed for this purpose, and signed and submitted to the Master Mechanic by the mechanic making the inspection. Following is a list of items that should receive careful attention on each inspection:

**Hoistway:**

- Bevel boards (sometimes called toe guards)
- Doors, gates, locks
- Limit switches
- Guide rails
- Counterweight fastenings

**Cables:**

- Hoist
- Counterweight
- Control
- Cable fastenings
- Counterweight fastenings

**Machine:**

- Brake
- Limit stop
- Slack cable device
- Reverse phase relay
- Drum keys
- Set screws
- Worm and gear
- Switchboard

**Car:**

- Safeties
- Guide shoes
- Fastenings
- Floor
- Cable lock and balls

**Lubricate—**

- Guide rails
- Overhead sheaves
- Deflector sheaves
- Motor bearings
- Gears
- Cables (with special compound, and according to manufacturer's specifications)

**Clean—**

- Hoistway walls
- Car safeties
- Motor
- Machine

In addition to all the above, it is necessary to determine without question whether or not the safeties are ready to hold the car in the event of

emergency. At least twice each year each car should be subjected to a drop test in the case of instantaneous safeties, and the safety drum should be pulled in the case of friction clamp safeties. The drop test is accomplished by lowering the car slowly until it rests on top of a stout timber such as a 4x4 placed vertically on the floor of the pit. Enough slack is then allowed in the hoist cables to allow the car to drop not more than a foot. By means of block and tackle the timber is pulled out from under the car. The safeties should grab the rails and hold the car stationary on an even keel before the slack in the cable is taken up. This test, of course, is made in the case of the break-cable type of safety usually found at the car cross head. Moving the car in an upward direction will take the car off the safeties, after which the rails should be examined to determine whether or not all four dogs bite equally, and then they should be planed smooth. Other types of safeties are tested in a slightly different manner, but all tests should show conclusively whether or not the safety equipment will hold in case of an emergency such as a sudden failure of the motor shaft which is almost impossible to predict by ordinary inspection methods.

## LADDERS

1. Keep both hands free for climbing whenever possible. Always have a firm grip on the ladder with at least one hand. If materials or tools have to be passed, use a rope.

2. Single and extension ladders should not be used for working bases except for short periods of time and in case of emergency. Where a job will take considerable time, use a platform ladder or a scaffold.

3. Do not stand any higher than the third rung from the top on a straight ladder, or the second step from the top on a step ladder.

4. Never place a ladder in front of a door opening toward the ladder unless the door is locked or you can station a helper on the other side of the door to give the necessary warning.

5. Do not place the top of a ladder against the glass in a window. Tie a piece of wood across the top of the ladder to span the window frame. Don't depend on the sash to support any of the load.

6. Always face the ladder whether climbing up or down.

7. Keep your eyes on the rungs. A weak or broken rung may have developed since the ladder was used last.

8. If your shoes are oily, greasy, muddy, or otherwise slippery, scrape off the sales before you starte climbing.

9. Never let anyone climb a ladder with you.

10. Never lean too far to the side when on a ladder. Get down and take 60 seconds to move the ladder so as to prevent spending six weeks in the hospital.

11. Never slide down a ladder.

12. Ladders used on roofs should be securely fastened to prevent slipping.

13. No ladder should be used as a brace, skid, horizontal scaffold member or for any purpose other than that for which it was originally designed.

14. Don't try to make your own ladder by nailing a couple of cross-pieces to a single 2x4".

15. Never lean your ladder against an insecure backing such as a pile of boxes or crates.

16. Short ladders should never be spliced together, as the side rails do not have sufficient strength for the increased length.

17. When you use a step ladder be sure that it is fully spread and locked before climbing.

18. If it is necessary to use a ladder outside during a strong wind, lash the ladder securely to prevent being blown over while you are near the top.

19. Use ladders with safety feet where needed.

20. Use ladders with shafting hooks when practicable.

# CURRENT TEXTILE TOPICS

## Burden of war keeps increasing

WAR ORDERS for cotton mill products at the start of the second half of 1942 were 67 per cent of the record-breaking production, since they bore priority ratings of A-10 or higher, said Dr. C. T. Murchison, president of The Cotton-Textile Institute at the annual Cotton Research Congress. This was even more than indicated by the survey of WPB and OPA, to obtain data for the government's war textile program.

This joint survey found that the 1941 production was 10,500,000,000 linear yards of cotton goods, 25 per cent above the 1939 volume and an unprecedented output. WPB found it necessary, in view of steadily mounting military requirements and the civilian trade needs, to plan for an estimated 12,000,000,000 linear yards in 1942.

In the year 1941, (with our entrance into the war coming early in the final month) requirements for military purposes under the National Defense program were 20 per cent of the yardage of cotton goods produced. The government survey indicates that military requirements will exceed 50 per cent of the vast yardage in 1942. But as the military fabrics are predominantly in heavy constructions, this figure on percentage may easily be reconciled with that of Dr. Murchison.

## Mill burden extends beyond home shores

These figures are staggering, in view of the fact that the suggested military requirements are not far from equivalent to the normal peace-time demand for a nation of 130,000,000 persons. The military demands however, are based upon a war front extending to the four corners of the earth. And the demands upon American mills for civilian as well as military needs of the Allied Nations extend the burden upon American manufacturers beyond the home shores.

Taking care of the needs of the far-flung battle lines explains in part the astounding military demands. The necessity of having supplies available at all strategic distribution points increases demands for goods far beyond what would be used by similar American forces in a war such as that 25 years ago. In this case, moreover, there are new war uses and the lend-lease program as other factors to multiply the cotton goods requirements.

These conditions pointed the past month to continued heavy purchasing of goods for military purposes, especially since the war developments were pretty much of an adverse nature. Some observers in the market looked for lend-lease business to have the first broad movement in the second half of the year, with more American business to develop in August. In any event, the second-quarter discussions on the ultimate turn to peace-time conditions were evidently forgotten.

## More obstructions to civilian trade

In the spurt of civilian purchasing under the National Defense program, that division of cotton goods rose to a 1941 volume of 8,073,362,000 yards. The average for 1932-1941 was 7,765,-000,000 yards. It is figured that only 6,800,000,000 may be available in 1942, including industrial and defense items which are not directly military production. This would be the smallest amount for the civilian trade since the low of the last depression, or 1932.

This may not be a matter of serious moment to the public, which had stocked up heavily for two or three years and evidently has become imbued with the spirit of conservation. The mills, however, have been struggling through a period of confusing regulations in trying to do the business that remains possible. From May 4 cotton goods were based on a theoretical level of 20.37 cents for cotton at 10 southern markets. Cotton eased to an average of 18.56 cents on June 15.

This provided the widest margin between cotton and goods for a long while, but this advantage later disappeared. Mill men were expressing concern in July over the rise of cotton. There was also the question of wages. The position of OPA in its drive to halt inflation remained an anomalous one, with Congress and the Administration making control of agricultural products and of wages a difficult matter. It has been the contention of mill authorities that ceiling prices for goods cannot be maintained without control over such costs as raw cotton and labor.

**To introduce the 100 per cent Aralac interlining for infants' and children's wear, Aralac, Inc., a division of National Dairy Products Corp., staged in July an Interlining Fashion Show. Coats, sportswear, snowsuits and house robes in sizes from infants' through the teen range, were presented. The accompanying photographs show two youthful models wearing cotton byrdcloth suits, by Tidy Products Corp., interlined with 100 per cent Aralac**

## MPR 157 Confusion, Inventory Control

Efforts of the OPA to control prices even of military goods ran into difficulties and led to modifications such as the amendment of MPR 157 as affecting cotton goods for military purposes, exempting emergency purchases. The situation after the amendment, however, was still one of confusion for the mills.

It was trade opinion, moreover, that efforts at inventory control by government was a needless interference with civilian trade. Even the smaller retailers, who it was thought might benefit through limitations on stocks carried by the larger competitors, were found opposed. For one thing, they found enough extra burdens put upon them through maximum price regulations.

## New England Mill Situation

MARKET REPORTS in July regarding fine cotton goods for civilian use were indirect testimony to the emphasis on government business by mills in New England. A definitely limited flow of goods through regular channels was indicated. Some special constructions and a modicum of loom production in fine staple lines were reported, but

buyers were finding themselves on a strict allocation basis.

Some buyers were counting on a more continuous flow of goods from the mills. In contrast, it was found that gaps of several weeks were confronted when they tried to repeat purchases. Thus converters had little opportunity to accumulate desired reserves of stock. Mid-July, moreover, saw the situation apparently tightening rather than showing any tendency toward relief.

Many in the trade were looking for the government to put further pressure on mills, either through seeking advanced deliveries on contracts in hand or through increased orders, or both. Thus the conversion to military production in New England was emphatic, in spite of a heavy rate of production.

### Vital production in war program

It is estimated that production for government uses by New England cotton mills early in the second half of this year was approximately 80 per cent of the large output. A few plants even were indicated to be running full on military goods.

This section accounts for something like 66 per cent of the fine combed goods produced in the country. Such lines are vital in the war program from various angles, including safety and health. A list of some products speaks for itself: aircraft fabrics, parachute cloths, hospital supplies and mosquito netting. Cartridge cloths, wind-resistant clothing lines, shirtings and uniform goods are other items keeping mills at high speed.

Reports from the fine goods market indicate that demands for airplane and balloon cloths alone are likely to run far beyond what had been anticipated early in the war, although the volume is not expected to be revealed. These require high standards of mill workmanship as well as quality of the material used.

### Mills raise output, though still restricted

Shortages of labor and maintained legislative restrictions, notably in Massachusetts, have found the New England mills a considerable distance away from reaching 100 per cent of capacity. Some mills have priority business which have led the Masachusetts authorities to allow full-time operations, but the number is very few. Labor has been cited as the leading problem in some sections, for example Rhode Island.

This year to date, however, marks a further progressive gain in production of the northeastern states, after a notable rise in 1941. Cotton consumption measures this advance. The volume in 1940 was 929,429 bales. Last year the amount was lifted to 1,260,389 bales. For the first half of 1942, a gain of more than 50,000 bales was made over the same period of last year.

Consumption for the district in June was 109,177 bales, against 102,815 for the month in 1941. All signs, however, pointed to some decrease of activity in the mills for the hot summer months, or at least July.

### Various factors for mill let-up

Here as elsewhere a number of mills have arranged to keep workers going with an extra week's pay in lieu of the regular vacation. At the same time some units were closed for short vacations in July and others arranged vacations on a staggered system.

Vacation periods are normally the time for machinery adjustments and repairs. Managements have reduced to the utmost the stopping of machinery for this purpose. The war has increased stress upon equipment, however, and some time of idleness is unavoidable.

Some northern manufacturers have cited labor as the most vital problem of late. At the time of writing the future of wage scales was giving serious concern. The call of the draft and migration of workers were threatening mills from the production side.

Incidental to the unregulated wage situation, manufacturers were severely critical of the government for its inconsistent program. Nobody wants inflation, but an efficient Quartermaster Corps has dealt with mills on an equitable basis, only to be superseded by an experimental ceiling by the OPA. Thus mills have had to face confusions created by the government, while trying to promote national interests in a vital emergency.

# "THE SITUATION" as Seen Across an Executive's Desk

July 17, 1942

### War

THE TEMPORARY lull which gave hope of an early ending of the war has been found to be only a period of preparation for a fiercer struggle. Sevastopol has fallen, the Russian line is crumbling, while the appeal comes over the land for a second front. Tobruk has gone into enemy hands and Rommel with his Axis troops fights viciously for Suez. The Japanese are struggling to locate a stronghold in the Aleutian Islands to harry the ships that might pass between Alaska and Russia. The cruel Nipponese cast their deadly spearheads into the lines of the valiant Chinese. The struggle for control of nations and economic areas is now being waged relentlessly by the Axis forces, while the United Nations plan and struggle on, hoping for some massive war materials and equipment under the leadership of some strategic general to eventually turn the tide. In the meantime the submarines' sinking of ships becomes greater and greater.

The poor preparedness of the United Nations, accentuated for a long period by confidence in their strength, produced a complacency that has been disastrous. Too many people in America are still complacent and desiring for business to continue as usual. Too many are co-operating only with their tongues in their cheeks. Those homes who have furnished their sons and husbands to stand in the battlelines are beginning to realize the grim catastrophe which is taking place in the world.

### Washington

Washington is a madhouse of patriotic intent and efficient scientific planning, modified too much by political expediency and future political control.

The most important development in the economic world today is the growing menace of inflation. The price control machinery is under terrific pressure because all factors of cost have not been put under control. This nation refuses steadfastly to adopt a definite wage policy consistent with the demands of inflationary control. It refuses to control the price of certain agricultural commodities. It plays to the political gallery of these two imposing congregations, hoping to prolong the present political adherents in power. This is a war world and politics should be adjourned. We are not trying to save jobs or people, we are trying to preserve ideals, to protect and make safe certain principles of life. No one who is patriotically honest should be playing politics in these days.

The government's failure to fix wages on the prices on certain raw commodity products has caused a nau-

sea in the minds of many people who are under control. They are wondering about the justice of price control under such conditions. This causes them to be only literal observers of the technical rules. It causes them to fume and fuss about iniquities. Washington must do something effective and do it quick or the strain on the inflation control will break. There must be no political preferment which endangers the economic life of this nation.

While inflation is an extremely serious factor in our economy today, it will be a most serious and distressing factor in the post-war adjustment period. Everyone remembers the debacle of '29 which closed the riotous route of prices in the post-war days. There is reason behind the policy of price control. Everything that tends to destroy its effectiveness must be removed.

## Rationing

Rationing is a factor in distribution made necessary because of the scarcity of certain materials plus the abundant supply of expendable money and it is also a factor in price control. It occurs to some people that rationing should be equally and justly applied to all people. Theoretically it could be, but in practice there will always be natural and unavoidable iniquities. The government or its agencies should do nothing to increase or give evidence of these iniquities.

Gas rationing along the Atlantic seaboard has in it the elements of political preferment at the expense of a local area. If the government is conserving gasoline to conserve oil and rubber, why should not the people of the nation co-operate in the plan? Again, if the rationing of gasoline is for the purpose of saving gasoline, why should only a selected zone be penalized and the rest of the country go free? The bad taste of politics with reference to rationing, the tax bill and wage fixing have in the press an intimation that certain policies dealing with these subjects will be inaugurated on a broad basis after the fall elections. Such facts, if they are so, seem to have a semblance to the statement, "Nero fiddled while Rome burned."

Again we say that this is no time for political bickering and trading. The rise in the price of gasoline went to the oil companies and not to "the poor filling station operators" whose means of livelihood have been so seriously curtailed. It is a queer world when an oil company is chastised with one hand and given financial remuneration with the other.

## Some War Influences

The War Production Board has predicted that more than 50 per cent of the products of the cotton-textile industry this year will go into military requirements. In some important divisions of the industry the proportion of products going into war classification is much larger than this figure. The entire production of mosquito netting is now covered by contracts bearing high priority ratings. Other divisions of the industry contributing the major part of their output to the war effort include: Tobacco and cheesecloth (gauze for hospital supplies), 84 per cent; drills, 90; osnaburgs, 97; twills, 99; combed poplins, 90; numbered duck, 94; army duck, 91; sheetings, 81; lawns, including airplane and balloon fabrics, 83; filter ducks, 81.

The war has not only changed the character of the industry's output by the conversion of looms to heavy, durable fabrics and the elimination of luxury items but has markedly altered the distributive picture. The distributive picture has been altered because of the fact that the War Production Board needs so many commodities of such varied character that there is but little left that can be manufactured and distributed for civilian use. Perhaps, next to steel, cotton is the most vital element in the military preparedness program.

A second influence is the purchase of materials for lend-lease. These goods are highly specialized products going to all parts of the globe where our United Nations are at war. A third influence is the type of goods that must be manufactured for domestic uses. Since this is a highly mechanized world today industrial products made of cotton are necessary to keep the machinery in operation.

## Two WLB Decisions

On July 6, the National War Labor Board, by a vote of 6 to 3, rendered a decision in the case of: New England Textile Operators (finishing companies) versus Federation of Dyers, Finishers, Printers and Bleachers of America, CIO, which carried with it the following directive order:

"The Directive Order of the Board in the above entitled case, made in accordance with Paragraph 3 of the Executive Order of January 12, 1942, is based upon the unanimous recommendations of the Panel which have been amended to read:

*A. Wages:* 1. All employees covered by the terms of the agreements between the parties who are receiving base rates of 64 cents per hour or less, shall be given an increase of 7 cents per hour.

2. All employees covered by the terms of the agreements between the parties who are receiving 65 cents per hour shall be given an increase of 6 cents per hour.

3. All employees covered by the terms of the agreements between the parties who are receiving in excess of 65 cents per hour, shall be given an increase of 5 cents per hour.

*B. Retroactivity of Wage Increase:* The above-mentioned wage increases shall be retroactive to May 5, 1942.

*C. Military Severance Pay:* The Union's request for military severance pay is commended to the serious consideration of the employers.

According to the press, the WLB has awarded a wage increase of 44 cents a day in the "Little Steel" case. This was an 8 to 4 decision, the labor members dissenting. The board also awarded union security in the form of a maintenance of membership clause and company check-off of union dues.

A minimum daily wage guarantee asked in the case of two companies was also granted. The two other companies in the case already have that guarantee in effect.

The cases of the other textile mills, both North and South, are still pending before the WLB and will likely be

**Three new instructors have been appointed to the faculty of the Philadelphia Textile Institute. Above, left to right, are: M. Earl Heard, dean of the institute, and the three new instructors—Russell Koenig, Paul Beatty and Robert Pickens. Koenig was formerly connected with National Automotive Fibres, Inc., Detroit; Beatty with Peerless Woolen Mills, Rossville, Ga., and Beacon Mfg. Co., Swannanoa, N. C.; and Pickens with Kay Woolen Mill Co., Salem, Oregon. All three are former graduates of the Institute . . . . . .**

decided in the next week. These decisions seem to indicate two rather distinct policies of the government. The first one is that when wage rates are demanded inflation must be considered secondary. The second is a growing policy on the part of the government to fix wages on a national plan. It might be further stated that the general attitude of the government seems to indicate that of being more afraid of labor than of preventing inflation and preserving the nation's economy.

## Decreasing Margins

Up to the present time, since war production demands have so rapidly increased production in the cotton-textile industry, the mills have had fairly decent margins, for the most part. They have been able to recoup some of the serious losses incurred during the long period of the depression. These margins are now beginning to decrease markedly under the impact of certain factors. One of these has been the price of raw cotton which still stands as an ever possible reducing factor in its marginal influence. Another factor is the increase in wage rates that seems evident according to the recent decisions of the WLB. Another factor is that of the ever-increasing tax burden which in its many ramifications seems to threaten seriously any substantial or reasonable profits for the next few years.

Another influence is the wear and tear on machinery caused by the excessive running time. In many cases repairs and upkeep are exceedingly difficult.

Another factor is the constant drain away from the cotton-textile industry of many of its efficient workers. These workers do not leave the textile industry because they are dissatisfied with the work but because they can secure unusual rates of pay on government projects. Again there is the drain caused by the draft board, or volunteers, from the industry in some branch of military service.

In addition to all of these the OPA now seems to indicate a tendency or a desire to reduce ceiling prices. With all of these facts in mind the prospects of a continuing profitable cotton-textile industry seem to be vanishing. The government seems not to be considering the fact that American industry must be kept financially sound and efficient for the results that are needed now and for the readjustment which must eventually come when the war has been ended. Just as a preparation for the war effort has caused serious and costly dislocation in the industry, just so will the readjustment period be serious and costly. The textile industry should not be deprived of its right to be in a position to make its readjustments without serious danger to its stockholders, to the public that it serves, and most important of all to the great group of workers who depend on its operation for livelihood.

## The Tax Burden

Rising Federal taxes have greatly increased cash requirements of corporations and may lead to greater demands for bank credit. Such a condition may not obtain in the stronger and better financed industries but in the weaker industries and those which are operating upon narrow margins will likely be forced to borrow either this year or the next to meet the greater tax load now in prospect.

Many people who now study the pending tax bill are disturbed by reason of the fact that it carries in one clause a provision that taxes shall be calculated upon the calendar year rather than upon the fiscal year of the company paying taxes. Heretofore, this has been the custom. Again many people under the uncertainties enumerated in the previous paragraph on "Decreasing Margins" are extremely uncertain as to what their profits shall be. They are also uncertain as to the rates that shall be applied. This makes it extremely difficult to set up reserves to take care of the tax situation. The rates most frequently used are those tentatively adopted by the Ways and Means Committee proposal: i.e., 94 per cent for excess profits and 40 per cent for other Federal tax on income.

As we have said before, these are disturbing problems because taxes must be met and dividends are supposed to be paid and some reserve should be made for the post-war situation. Those people who ride through the land and see the mills operating day and night and think that the textile industry has no problems of worry are extremely ignorant. Those people who frame the tax bill should take a broad economic view of conditions and enact a tax bill that is fair and reasonable. Every organization wants to do its best in contributing taxes so that all the money needed to carry on the war effort will be available but every industry must be given an opportunity to earn the money out of which these taxes can be paid. The end of the war will not be the end of the world. People will live on and industries must be in a position to serve the needs of the people.

## South American Cotton

It was recently made known that the United States Government has entered into an agreement with Peru to purchase a substantial quantity of cotton from the 1942 crop of that country and similar quantities from subsequent crops for the duration of the war. Informal conversations have been held with Brazil in which a similar agreement pertaining to the United States purchase of the Brazilian cotton crop was discussed. Certain negotiations have come up also with reference to the purchase of rubber which will likely be needed by this country. The negotiations with the above-named countries were not carried on with the idea of importing this cotton into the United States. Most of the cotton grown in Peru and Brazil has been exported to countries other than this nation. Since these countries are closed to the exports of cotton the United States has had at least two objectives in conducting the negotiations. The first reason is on account of our Good Will policy with the countries of South America. The fact that the United States has volunteered to take certain amounts of this cotton from these nations will strengthen the economic position of these nations and, second, it will make it unnecessary to yield to any undue pressure to dispose of this cotton to any of the Axis nations. It is not thought that any of this cotton will ever become competitive with our domestically-grown cotton.

While we are discussing this, there is another factor of world reform connected with these negotiations. According to press reports, Secretary Wickard has recommended that certain increases in the price per pound of cotton raised in these South American countries shall be made in proportion to the reduction of acreage effective. There is also a report that the price that this nation will pay for rubber will be based upon the hours worked and wage rate paid to the laborers on the rubber plantations. If these facts are true they demand very serious study by the leaders of this nation. It should be very carefully considered as to how far our reform measures should inject themselves into the economic and social lives of other nations at this time. There are a great many very delicate and sensitive relationships already existing hence great care should be used so that no opportunity of disturbing these relationships can arise.

## Regulation No. 10

Priorities Regulation No. 10 positively requires that Allocation Symbols and Numbers be used on *all* orders henceforth.

It is also required that each organization shall give the percentage of its production that goes to each of the va-

rious designated ends, such as Army, Navy, etc. The percentages must be based on actual shipments already made. For this month only, shipments made in May or June may be used. After July, the percentages must be based on the preceding calendar month.

Although the Army or Navy as purchaser will forward to each organization orders giving their symbol as "USA 6.20", in placing orders for supplies, the organization should, in every case, use its symbol as a textile plant processing raw material, which symbol is "8.90". In no case is the original symbol, such as "6.20", extended on orders *except* for materials which are physically incorporated into the finished product.

Please, therefore, immediately furnish the following information, giving percentages by the correct symbols:

| Letter Symbol | Numerical Classification Symbol | Percentage |
|---|---|---|
| USA (Army) ..... | 8.90 | ..... |
| USN (Navy, including Maritime Commission) ..... | 8.90 | ..... |
| LL (Lend-Lease) .. | 8.90 | ..... |
| FP (Other Foreign Purchasers ..... | 8.90 | ..... |
| DP (Domestic Purchasers) ..... | 8.90 | ..... |

If unable to give the percentages accurately at this immediate time, it is very important that this be secured as promptly as possible, which information will be absolutely necessary in order to secure shipments of any goods.

# What the Textile Mills Are Doing

United States Rayon Corp. has purchased the Wauregan-Quinebaug plant near Danielson, Conn., and will set up a rayon producing unit. The machinery and equipment of the Imperial Rayon Corp., in Gloucester City, N. Y., previously reported being sold for shipment to Mexico, is being set up in the Danielson plant. David Schrage is president of the new corporation and the key men of the plant, which utilizes the cuprammonium process, are former employees of the Imperial Rayon Corp.

The recently-organized General Fiber Products Corp., Los Angeles, Cal., plan a new mill in the vicinity of Kingman, Ariz., for the production of textile fibers, using the leaves of the yucca plant as raw material. The plant will operate under a new extraction process, with an output of fiber suitable for the manufacture of rope and other cordage products. Herman L. Joachim, 1151 South Broadway, Los Angeles, is the consulting engineer in charge.

Aspinook Corp., Jewett City, Conn., which as noted recently arranged to operate the Jones Division mill of Arnold Print Works, Adams, Mass., has subsequently concluded negotiations for the purchase of the property, and will operate it as a wholly-owned subsidiary.

Northwest Flax Products Co., 628 Williamette St., Eugene, Oregon, plans the erection of a new flax-processing mill at Irving, near Eugene, comprising a main one-story building for scutching and retting, with auxiliary structures. Clarence F. Hyde is secretary of the company.

Tennessee Eastman Corp., Kingsport, Tenn., manufacturers of rayon and rayon staple fiber, has concluded arrangements for a new mill in Tennessee (exact location withheld) to be constructed by the Defense Plants Corporation.

Marjane Weaving Co. has been organized in Charlotte, N. C., with plant at 504 South Graham St., for manufacturing webbing for Government use. Officers include F. W. Warrington, president; J. B. Rudisill, vice-president; and Frank W. Orr, secretary.

Gordon Spinning Co., North Wilkesboro, N. C., was recently organized, with S. V. Tomlinson and J. R. Hix, president and treasurer, respectively, of the Grier Mills, North Wilkesboro, as the heads of the company.

Greensboro Weaving Co., Greensboro, N. C., manufacturers of rayon piece goods, a unit of Burlington Mills, has approved plans for a new one-story mill addition, about 100x219 feet.

Recent improvements and additions to the Green River Mills, Tuxedo, N. C., include a waste house and a winder room. New machinery includes new cards and two new one-process pickers.

Erwin Mills, Huntsville, Ala., idle for several years, has been re-conditioned and re-opened. Lee O. Erwin is plant manager; the mill manufactures knitted materials.

M. M. Rudisill, of Lincolnton, N. C., has purchased the Biltmore Hosiery Company plant at Naples, N. C., and intends to use the structure as a specialty yarn and thread mill.

Washington Mills Co., Mayodan, N. C., have completed the construction of a new dyehouse at the underwear plant.

Luray Textile Corp., Luray, Va., is building an addition to the present plant, operating on rayon and nylon throwing.

Southland Hosiery Mills, Greensboro, N. C., is to erect an addition to be used as a dyehouse.

# New Publications of Textile Interest

**Textile Industry Research, Inc.**, 11 West 42nd St., New York City. A concise booklet giving a short outline of the scope of the activity of this organization and showing how its services may be utilized.

**Allis-Chalmers Mfg. Co.**, Milwaukee, Wis. "A Guide to Wartime Care of Electric Motors", a 24-page book discussing the proper maintenance of motors under wartime operation conditions.

**Clinton Carpet Co.**, Chicago, Ill. "Blackout, Air Raid Damage and Glass Splinter Protection". An analysis of the use of Ozite air raid safety blanket and blackout blankets in this wartime problem.

**Westinghouse Elec. & Mfg. Co.**, East Pittsburgh, Pa. An 8-page booklet, B-3080, giving a non-technical summary of the highlights of the company's Type SA air-cooled induction feeder regulator.

**Power Transmission Council, Inc.**, 53-63 Park Row, New York City. Bulletin No. 40, discussing planned power transmission, which recognizes three forms of mechanical power transmission: modern individual drive including v-belt drives, chain drives, gear drives, flat belt drives, etc.; modern multi-motor drives where there are multiple shafts or arbors running at different speeds and at different angles to each other; and modern group drives in which two or more machines are so arranged as to be driven from the same source of power.

**Calco Chemical Division**, American Cyanamid Co., Bound Brook, N. J. Technical Bulletin No. 654, "Microscopical Observations of Union Dyeing", by H. E. Millson and G. L. Royer, discussing the scientific application and reaction of dyestuffs to an extensive list of synthetic, as well as natural fibers.

**Acme Steel Co.**, 603 Stewart Ave., S. W., Atlanta, Ga. "Steel Strapping Shipments", an 8-page folder giving tables of sizes, weights and footages for both nailed and nailless types of strapping; recommended sizes of strap for given package weights; information on how packages should be reinforced, etc.

**Gill Leather Co.**, Salem, Mass. "Calfette", a new folder describing the new product of this name for use as a roller covering material on spinning frame rollers.

**Calco Chemical Division**, American Cyanamid Co., Bound Brook, N. J. Technical Bulletin No. 655 containing formulae for dyeing the United Victory Shades selected by the Textile Color Card Manufacturers Association. The formulae have been prepared on 11-ounce cotton warp fabric; the warp accounting for 50 per cent of the weight, with the filling made up of 80 per cent wool and 20 per cent staple viscose rayon.

**The B. F. Goodrich Co.**, Akron, Ohio. New catalog section on Vulcalock rubber linings for handling corrosives and abrasives. A table lists over 100 of the most common services for which Vulcalock rubber linings are suitable, giving the limits of temperature and concentration of the fluid in each case.

**National Carbon Co., Inc.**, Cleveland, Ohio. Bulletin on "National" and "Karbate" carbon and graphite corrosion resistant pipe, tubes and fittings.

# COMMENT on the COTTON MARKET

New Orleans, July 16, 1942

THE LAST two weeks of June and the first week in July was a period of recovery in the cotton market during which prices worked up about $8.00 a bale and most of the loss sustained during the first part of June was recovered. At the highest of this movement, October sold at 19.76 in New Orleans and at 19.53 in New York while the average for Middling 15/16-inch went to 19.99. Prices at the top of this advance were only 48 to 59 points from the season's highs reached in April. Since these highs were made the market has been two-sided and more or less irregular owing to the confusing and uncertain legislative outlook at Washington. Only a moderate reaction followed passage of the agricultural appropriation bill which permits the sale of 125,000,000 bushels of wheat at 85 per cent of corn, probably because cotton is not affected by this amendment. The present act forbids the sale of any farm surplus under parity except wheat. Prices as this is written are not far from the top. Liquidation of July was orderly and had no effect on the market.

The recent advance was due largely to buying by procrastinating spinners and covering by traders who sold the market down in June. Both of these interests appear to have been counting on price fixing orders of the OPA, temporary withdrawal of the Army from the dry goods market and opposition of the administration to the legislative program of the farm bloc to depress values further, or at least to prevent another rise in prices.

The course of the market was changed by a statement from the head of the OPA to the effect that the refusal of Congress to vote all the funds asked for the support of his department would prevent him from maintaining price ceilings previously fixed by the OPA and a growing belief that Congress would authorize loans of 100 per cent of parity on this year's crops. The statement of Leon Henderson was interpreted as indicating that the administration has come to the conclusion that inflation is certain to follow the tremendous spending of the government for war purposes especially if the administration is prevented from using surplus stocks of the CCC to relieve tight supply conditions in some commodities. High governmental officials say the lend-lease war program alone calls for the expenditure of $222,394,000,000 of which only $34,765,000,000 have been spent, leaving $187,629,000,000 to be spent in the next 24 months. Another helpful factor was the demand that the OPA operate in accordance with Sec. 3 of the price control law which prohibits a ceiling on goods processed from farm products which does not yield the farmer 110 per cent of parity. A Congressional committee demanded that Henderson raise the ceiling on raw cotton from 20.34 to 21.47 cents a pound in accordance with this law.

The halt in the upward movement was due to delay in disputes in Congress over the proposed farm legislation. These were occasioned by the attempt of the Senate to amend the rider in the agricultural appropriation bill, which prohibits the sale of farm surpluses under parity, so as to allow 125,000,000 bushels of wheat to be sold under corn parity for feed and alcohol, or at about 83 cents a bushel. The House conferees held out two months against the acceptance of this amendment but finally, on July 15, voted to accept it and passed the agricultural appropriation bill. The fate of the 100 per cent of parity loan bill, which has already passed the Senate, is uncertain as this is written, but reports from Washington indicate that it may not pass the House unless the cotton market declines. Some authorities also think the House may await the outcome of the anti-inflation bill, designed to control wages, etc., which administration leaders say will soon be introduced, before acting on the loan bill. The present loan rate is 85 per cent of the July parity. The June parity was 18.85.

The CCC reports that 2,221,351 bales of the 1941 crop went into the loan up to July 3. Withdrawals to the same date total 1,254,818, leaving 966,533 bales still in the loan. Notes on these loans have been extended indefinitely after July 31 when they mature.

The Crop Reporting Board reports 24,005,000 acres in cultivation to cotton on July 1. This compares with 23,132,000 in cultivation last year. The Secretary of Agriculture had requested farmers to plant their full allotment of 27,400,000 acres. Officials of the Department of Agriculture express concern over the failure of the South to plant the full allotment. Failure to do so is attributed to labor shortage, and the opinion is expressed that the crop may be around 10,915,000 bales as a result of this condition. The Crop Reporting Board will use an acreage of 23,525,000 for its August 8 estimate.

Recent weather has been mostly favorable and the crop is reported to have made good progress during the first half of July. Weevil, however, are generally prevalent and labor conditions are against picking a large crop. The Department of Agriculture reports farm wages the highest since 1920. The government has made 50,000,000 pounds of calcium arsenate available for poisoning.

The New York Cotton Exchange Service estimates world consumption of American lint cotton this season at 12,355,000 bales compared with 11,867,000 in the previous season. Consumption in the United States is estimated at 11,100,000 compared with 9,576,000 last season. This authority doubts if domestic consumption next season will reach 12,500,000 bales.

The New York Cotton Exchange Service also estimates world consumption of foreign growths at 13,451,000 compared with 14,675,000 in the previous season. Consumption of foreign cotton in the United States is estimated at 200,000 bales compared with 146,000 last season.

This authority estimates that 10,000,000 bales of all kinds have gone into war goods this season, leaving only 15,000,000 to 16,000,000 bales, or about one-half of what the world normally uses in a year, for civilian purposes.

The Census Bureau reports domestic consumption of lint cotton in June amounted to 966,940 bales compared with 957,015 in May and 875,812 in June of last year. Consumption for 11 months is given as 10,169,448 compared with 8,791,921 last year.

**CENSUS REPORT OF COTTON CONSUMED AND STOCKS**

| | This Season | Last Season |
|---|---|---|
| **Consumption of Lint Bales—** | | |
| In United States, June | 966,940 | 875,812 |
| In United States, May | 957,015 | 923,518 |
| In United States, 11 months | 10,169,921 | 8,791,921 |
| In Cotton Growing States, June | 831,550 | 743,295 |
| In Cotton Growing States, 11 months | 8,660,982 | 7,496,493 |
| In New England States, June | 109,177 | 102,815 |
| In New England States, 11 months | 1,200,809 | 1,037,225 |
| In All Other States, June | 26,213 | 29,702 |
| In All Other States, 11 months | 307,657 | 258,203 |
| **Mill Stocks** | | |
| In United States, June | 2,441,138 | 1,920,197 |
| In United States, May | 2,589,456 | 1,931,565 |
| In Cotton Growing States, June | 1,934,113 | 1,524,593 |
| In New England States, June | 423,225 | 336,519 |
| In All Other States, June | 83,792 | 59,085 |
| **Warehouse Stocks** | | |
| In United States, June | 8,458,912 | 10,574,730 |
| In United States, May | 9,402,969 | 11,399,982 |
| In Cotton Growing States, June | 8,100,603 | 10,175,849 |
| In New England States, June | 338,277 | 375,432 |
| In All Other States, June | 20,337 | 23,449 |
| **Active Cotton Spindles** | | |
| In United States, June | 23,090,560 | 22,994,980 |
| In United States, May | 23,120,666 | 23,004,082 |
| In Cotton Growing States, June | 17,500,694 | 17,353,626 |
| In New England States, June | 4,952,042 | 5,023,026 |
| In All Other States, June | 637,824 | 618,328 |

## Carman Is Now Business Consultant in Washington

William W. Carman, Jr., for 15 years chief business specialist and industrial consultant on textiles and allied products in the U. S. Department of Commerce, has announced the opening of an office in the National Press Bldg., Washington, D. C., where he will act as Washington representative and business consultant on problems related to government activities.

## Cotton Research Congress Approves Promotion Program

Cotton's wartime program of education and promotion was given the unanimous endorsement of the Cotton Research Congress at its third annual meeting in Dallas last month. The theme of the two-day meeting was the effect of the war to date on the cotton industry and what the future holds for growers and processors of the fiber and its by-products. Among the speakers were Claudius Murchison, president of The Cotton-Textile Institute, who spoke on "Production for War", telling of the contributions made to the war program by the cotton industry; and Ed Lipscomb, of the National Cotton Council, who spoke on "Preparation for Peace", telling in detail of the tremendous advertising and promotion program now under way in behalf of cotton, and the benefits to be derived from it.

The unanimous endorsement of the industry's education and promotion campaign declared it to be a most constructive activity for the industry and as a commendable effort to encourage through its appeal for personal cleanliness greater efficiency in times of war and higher standards of living in time of peace.

◆

## Tesco Acquires Sudite

Tesco Chemical Company, Atlanta, Ga., has absorbed the Sudite Chemical Mfg. Company of Atlanta, for many years a producer of cold water soaps, cleaning compounds, and automotive specialties. This acquisition will broaden the scope of Tesco's activities and permit a greater service to customers. When a new extension to the plant is completed, the equipment and machinery of the Sudite company will be transferred to the enlarged Tesco plant.

◆

## Currier & Co. Is Now Comer Avondale Mills

The name of Currier & Co., yarn sales agents, has been changed to Comer Avondale Mills. No change has been made other than in the name. This company, originally Waterman, Currier & Co., is the exclusive selling agent on yarns for Avondale Mills and Cowikee Mills and the Nashua Mfg. Co. It maintains offices in Boston, New York, Philadelphia, Reading, Chicago, Chattanooga, and Greensboro, N. C.

Hugh M. Comer is president of Comer Avondale Mills; J. Craig Smith is vice-president and treasurer; J. Bruce McCullough, R. O. Elliott, S. B. Terry, S. E. Fulton, W. C. Napier, and W. W. Crews are vice-presidents; and Gilber W. Paul is secretary.

## Cotton Hats for Men

Cotton fabrics in a variety of classic and novelty weaves, processed for machine-made hat bodies for men's hats, are presented by Hollander Co., for the 1943 season. Developed in cooperation with G. Raymond Hahn of Wellington Sears Co., to replace imported bodies, many of which formerly came from the Far East and South America, Nassau, Bahama and Haiti, these new cotton fabrics are an outstanding example of American skill and ingenuity in devising all-American products to meet wartime emergency shortages.

"Straw" Hat Made of Cotton

Ranging from fine, smooth weaves to rough novelty textures and interesting open textures in natural and medium tan tones, the cotton "straws" are light in weight, and hold up as well as straw bodies of similar weights and constructions such as kanokis, bakus and cocoanut straws. Response from hat manufacturers has been enthusiastic, and new fabric designs are being added as current circumstances permit.

The fabrics are being made at the Anchor Duck Mills, Rome, Ga.

◆

## Textile Unit Changes Name

The name of the American Viscose Corporation's textile research and standards laboratory, at Marcus Hook, Pa., one of the company's principal research and testing laboratories, has been changed to the standards department. The new name was chosen because it better describes the functions of the laboratory and gives recognition to the continued growth of its activities in connection with standardizing numerous test methods.

Under Dr. F. Bonnet, director, and L. S. Converse, assistant director, the laboratory for many years has been conducting analyses and applied research work on textiles and textile fibers designed to improve manufacturing methods and to increase the assistance that the company can give to its customers in the textile industries. Test methods have been studied and standardized in the laboratory, and in other phases of its work it co-operates with the laboratories at the company's seven plants to make certain that quality standards are rigidly maintained.

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## Westvaco Issues Card on WPB Classifications

Westvaco Chlorine Products Corp., 405 Lexington Ave., New York City, has issued for the convenience of chemical buyers, on a handy lettersize card, a summary of WPB allocation classification order numbers. On the face side is a summary of the instructions issued by WPB on the allocation order number system to be used on all purchase orders dated June 30, 1942, and thereafter. On the reverse side is a tabulation of the order numbers and classifications covering every branch of military and civilian goods.

◆

## War Work Set to Music

To relieve nervous fatigue and boost morale, war work has been set to music at the Westinghouse Lamp Division, Bloomfield, N. J.

Loudspeakers stationed in main manufacturing areas now play marches, tangos and swing for five and a half hours a day while hundreds of the plant's men and women employees turn out vital communications equipment for the nation's armed forces, according to A. E. Snyder, assistant general manager. Recorded music is also played in the company's recreation rooms and cafeteria.

Band music, intended as a "musical pep cocktail," greets the workers as they assemble for the first shift at 7 A.M. and continues for 15 minutes. Five other half-hour periods of music are scheduled during the eight-hour shift, one at lunch time and the rest timed to coincide with periods of "let-down" or fatigue among the workers. Music during the fatigue periods acts as a stimulant to the employees, reports show. Band selections are played at the end of the first shift and as new workers arrive for the second shift.

The new system was installed recently as part of a program arranged by the plant's WPB joint committee of labor and management. Thirty-three loudspeakers are now installed in main war production centers of the lamp division and eventually music will be supplied to all sections. When the installation is completed, frequency modulation and standard broadcast programs will be transmitted through the speakers. Microphones will also be set up to relay special messages to workers.

### AATCC Cancels Its National Convention

At the last session of the council of the American Association of Textile Chemists and Colorists, in New York City, a resolution was unanimously adopted cancelling this year's annual meeting, which was scheduled to be held in Atlantic City on October 8 to 11, 1942. This step was taken at the suggestion of Joseph B. Eastman, Director of the Office of Defense Transportation, in keeping with the government's policy to eliminate all conventions which involve extensive travelling on the part of delegates. The council is glad to co-operate with the wishes of the government in this respect but regrets that the technical program which was planned for the convention cannot be held, because it was to be devoted entirely to the technical aspects of the nation's defense effort insofar as the textile industry is concerned.

The Council voted to continue the intersectional technical contest, which will be conducted by the publication of the various contest papers in the official proceedings of the association. Each section's contribution will be judged by the staff of elected judges and winners will be announced in a subsequent issue.

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### Link-Belt Honors James Mapes Dodge

In tribute to the memory of James Mapes Dodge, one of the founders of Link-Belt Company, June 30, the 90th anniversary of his birth, the company celebrated with fitting ceremonies at its Nicetown, Philadelphia, plant. Mr. Dodge was chairman of the board of the company, at the time of his death in 1915. A beautiful portrait of Mr. Dodge, for the new reception room of the office, was presented by Mrs. Dodge.

◆

### "How Does Your Cotton Grow?"

An attractive book, entitled "How Does Your Cotton Grow?", has been produced as an elementary discussion of the growing of cotton, primarily as educational material for the general public. It was written by Betsy R. Woolen, with striking photographs by Bessie Walker Callaway. It tells the story of cotton, and is built around the personality of "Little Joe", a smiling little negro boy who hoes and picks his own cotton and proudly sees it ginned and baled on its way into the life of the entire nation. The book is offered as a first-grade reader. It is planned to follow it with others for more advanced classes to carry cotton through the mill until it is made into cloth. Then will come the finishing processes and the garment field and the various sundry ultimate services of cotton, with emphasis upon the importance of cotton in the national economy. The first volume, "How Does Your Cotton Grow?", is available at 50 cents per copy. Jacobs Press, Clinton, S. C., is the publisher.

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### Kempton Acquires the Stewart Machine Co.

Ed S. Kempton, of Gastonia, with several associates, has purchased the Stewart Machine Co., Gastonia, N. C., from the estate of the late W. Clyde Stewart, and will operate it under the name of Stewart Machine Co., Inc. Mr. Kempton will act as secretary, treasurer, and general manager. The concern will continue to make ring-holders, bolsters, whorls, lifting rods, bushings and do special textile machine shop work. A substantial part of the production is on the manufacture of special materials for the U. S. Navy. The company owns and operates its own foundry in connection with the machine shop, and employs between 75 and 100 men.

Mr. Kempton is now in his 25th year in the textile, textile machinery, and allied lines. He operates the Kempton Parts & Spring Co. separately from his new business.

◆

### Change of Name for Sylvania

The corporate name of Hygrade Sylvania Corporation has been changed to Sylvania Products, Inc., as a step in the company's long-term program in preparation for post-war developments. It will not affect basic operations or policies. The corporation is the third largest manufacturer of incandescent lamps, the second largest manufacturer of radio tubes, and the third largest producer in the fluorescent lighting field, and the management points out that the proposed change will establish a single, distinctive name in the public mind.

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### Clapp Leaves Stein-Hall

Oliver H. Clapp has resigned as an assistant vice-president of Stein, Hall & Co., Inc., 285 Madison Ave., New York City, manufacturers and distributors of starches, gums and dextrines, and importers of burlap, to become associated with the Defense Supplies Corporation, Washington. Mr. Clapp has been in charge of the burlap division of Stein-Hall's foreign department since last December, when Morris S. Rosenthal, a vice-president, went to Washington to become assistant director of the Board of Economic Warfare.

The management and supervision of Stein-Hall's burlap division are now integrated in the foreign department under Cecil H. Coryat and Robert M. Stein, assistant vice-presidents, who have headed that department for some time.

◆

### Half Year Rayon Yarn and Fiber Deliveries Substantially Above Corresponding 1941 Period

Deliveries of rayon filament yarn to domestic consumers during the first half of 1942 amounted to 231,400,000 pounds as compared with shipments of 219,200,000 pounds reported for the corresponding period in 1941, states the *Rayon Organon*, published by the Textile Economics Bureau, Inc. Shipments for the half year represented a gain of 6 per cent and the total constituted a new high mark for deliveries for the period.

For June alone, shipments aggregated 39,000,000 pounds as compared with 37,600,000 pounds delivered in May and 38,300,000 pounds shipped in June 1941.

Rayon staple fiber deliveries to American mills during the first six months of the current year aggregated 75,600,000 pounds, an increase of 18 per cent compared with deliveries of 64,300,000 pounds shipped in the corresponding 1941 period, and also a new high record for any six months period. For June, staple fiber shipments totaled 13,600,000 pounds as compared with 12,600,000 pounds shipped in May and 12,400,000 pounds shipped in June 1941.

Stocks of rayon filament yarn in the hands of producers amounted to 5,800,000 pounds at the end of June as compared with 6,900,000 pounds at the end of May. Stocks of staple fiber held by producers totaled 2,300,000 pounds as of June thirtieth compared with 2,100,000 of May thirty-first.

Advices received by the Department of Commerce indicate that France contemplates a 1942 rayon production of 220,000,000 pounds which would be double the estimated 1941 output of 110,000,000 pounds and compare with the last official French figure of 71,725,000 pounds of rayon fiber and staple produced in 1939.

"To obtain this optimistic level of production" the *Organon* states that "plans are reported in progress to utilize vegetable fibers such as Spanish gorse and typha to supplement a deficient cellulose supply. This rapid stepping up of French rayon production, and particularly the emphasis on rayon fiber, clearly reveals the German influence. It has generally been the German policy to expand staple fiber production in those occupied countries deficient in the domestic production of natural fibers."

# THE DECIDING FACTOR IS FACTORING

In the increased tempo of today's operations there may be very little difference between a profitable showing and a loss.

Southern Factoring tips the balance to the profitable side.

**We purchase your accounts receivable.**

**You retain present terms with customers.**

**We assume all credit losses and collection costs.**

**You have cash to meet payrolls, earn discounts, and to buy raw materials at a saving.**

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*Factoring Division*

TRUST COMPANY OF GEORGIA

ATLANTA

# TIMELY NEWS ITEMS with a TEXTILE SLANT

**A. Starke Dempewolff** has been granted leave of absence from the advertising department of Celanese Corporation of America for active service in the U. S. Army. He is a captain in the ordnance department.

**Bristol Company**, Waterbury, Conn., manufacturers of industrial process instruments and automatic control apparatus, has appointed **Charles A. Mabey** director of research. He has served several years as physicist for the organization, is a Harvard graduate and did advanced work in physics at both Harvard and M. I. T.

**Horace M. Kinne**, formerly in charge of media in the advertising department of Allis-Chalmers Mfg. Company, Milwaukee, Wis., has been promoted to have charge of all the company's purchasing of supplies, paper and stationery. **John Priebe** is handling Mr. Kinne's former duties.

**George L. Storm**, manager of the acetate sales division of the American Viscose Corporation's New York office, has received the commission of Lieutenant, Senior Grade, in the U. S. Navy, and has reported for duty. **Allen H. Jones**, of the company's economics and statistics department, received his commission as ensign in the U. S. Coast Guard and has reported for duty.

**K. J. Pedersen** has been transferred to Charlotte, N. C., by Acme Steel Co., to handle sales in the Carolinas, with headquarters at 2243 Selwyn Ave., Charlotte, according to announcement by **Frank H. Webb**,

Mr. Pedersen

southeastern sales manager, Atlanta. The untimely passing of **F. G. German** and the induction of **G. R. Easley** into the U. S. Army, made the shift necessary. Mr. Pedersen has been with the company for 20 years, most recently in Florida.

**S. H. Mortensen**, engineer in charge of a-c design for 10 years, has been made chief electrical engineer of the Allis-Chalmers Mfg. Co. plants at West Allis, Cincinnati, Boston, and Pittsburgh. He is a native of Denmark, and started with Allis-Chalmers at the Norwood works in 1905. He is the author of a textbook on Motor and Generator design, and more recently, a co-author of the Standard Handbook for Electrical Engineers.

**Lynn A. Williams, Jr.**, secretary of Stewart-Warner Corporation, Chicago, and head of the company's legal department, has been elected a vice-president of the corporation. He will continue all of his former corporation duties.

**C. Granniss Bonner**, formerly comptroller and more recently treasurer of The Brunswick-Balke-Collender Co. of Chicago, has been elected treasurer of Pomono (Calif.) Pump Co. He relieves **Donald C. McKenna**, vice-president, and former treasurer, who will devote full time to the increasing production activities of the company's four manufacturing plants.

**H. L. Bills**, director of industrial relations of Acme Steel Company, Chicago, Ill., was recently elected vice-president of the Industrial Relations Association of Chicago.

**Barnes Textile Associates, Inc.**, have temporarily discontinued their office in the Johnston Bldg., Charlotte, N. C., and their southern operations are being conducted through their office at 318 Montgomery Bldg., Spartanburg, S. C.

**Warwick Chemical Co.** have moved into new and larger offices at 580 Fifth Avenue, New York City. The move was celebrated by a reception at which Ernest Nathan, president of the company, expressed his gratitude to the organization for making the company a success. The phone number and address remain the same.

# The Cotton Waste Market

**Boston, July 16, 1942**

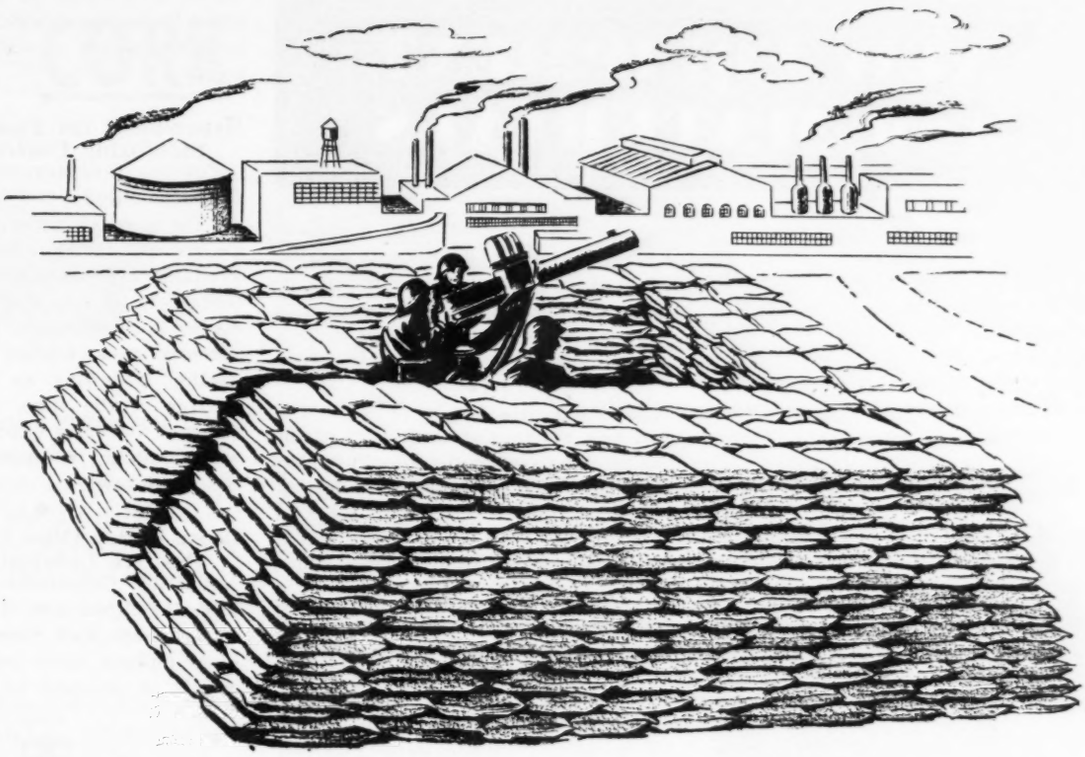
DEALERS report very little replacement demand for cotton wastes during this period of extended dullness. There is some call for specialty materials such as spinner and roving wastes, of which supplies are small and on which asking prices range from 18.50 cents on spinners to 22.00 cents on rovings. Sak and Pima comber are quoted nominally at 12.50 cents with peeler comber at 13.00 cents. In colored stocks, mostly of southern origin, the vacuum strips are approximately 6.00-8.00 cents; colored willowed sweeps, 3.00 cents; colored cotton and rayon threads, 4.25 cents. As a whole, prices on white and colored stocks are irregular. There is a lack of standardization. Mills mix their wastes differently. A waste must be seen to receive proper appraisal of its going market value. Some large mills are said to quote roughly the same price to dealers and consumers.

Wastes sellers are hardly yet sure of themselves under current confused conditions, but in general it seems as though out of the several ceiling prices made by various dealers in March, those of the lower level furnish at this time the basis on which a small amount of business is being done. If there were anything like a normal balance between the output and the consumption of cotton wastes, most of the difficulties confronting waste sellers would disappear immediately.

Business in wastes continues to arrive in the market though the aggregate volume is subnormal and the prices paid by consumers, determined in part by any necessity the dealer may be under to close the sale. The market is very much of an individual proposition in the sense that three or four dealers might name as many prices on the same stock, though the highest asking price would be just about the ceiling. Here and there considerable exasperation is shown over the confusion incidental to the OPA setting up of ceilings in a deflated market, where the real need was for the establishment of a firm foundation.

Waste dealers are slowly working their way out of the confusion incidental to the fixing of ceilings and the attempt at the establishment of something like normal market prices at a time when the amount of business being placed by consumers is quite inadequate to a testing of values. Most sales range below the March maximums as understood by leading houses here. Much has been said in recent weeks about the enormous over-supply of white wastes, but the colored mills, particularly in the South, have not been over-successful in keeping their supplies to a normal compass. However, according to a leader in the southern trade, owing to the difficulties in the securing of dyes, the output of colored wastes is becoming more and more restricted.

Summing up the situation, it may be said that with plenty of wastes being made, the price trend is away from the ceilings which are not being met except in very choice materials. It is difficult to say just what anything is worth, as the dealer who has an opportunity of sale will make the price at that time at whatever he thinks will close the deal. To what volume business will expand during the midsummer period is something on which no leaders here care to give an opinion. There may be an expansion of Government business in certain types but from the civilian industry, in all its reaches, nothing very encouraging is expected.



# First Call! . . . Eight Million Sandbags

Calling all mills! . . .

Eight million sandbags for field fortifications is only the beginning.

To meet minimum military and agricultural demands for sandbags, camouflage cloth, food and agricultural bagging calls for every yard of cotton bagging that the Textile Industry can produce.

You, the mills, have a tremendous responsibility to make sure that your mechanical equipment is adequate to meet and even exceed war production goals.

To get every last yard out of your present equipment . . . to locate and *break* every last one of the annoying bottlenecks calls for unceasing watch over every machine in the Wet End of Textile Finishing.

The Butterworth Organization is ready to work with you . . . help you to improve, repair and replace obsolete equipment to the utmost of our ability.

All of our facilities not required for Ordnance production are available for building Finishing Equipment. Deliveries on appropriate priorities to mills serving the war effort.

***64%**

**of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.**

*Proved by Research

H. W. BUTTERWORTH & SONS CO.
Phila., Pa. Serving the Textile Industry since 1820
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**Butterworth**

**PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY**

# NEW EQUIPMENT and MATERIALS

### "Cush-O-Liner" for Worn Auto Tires

Southern Mills, Inc., Atlanta, Ga., have developed an interliner for automobile tires that is made of 100 per cent cotton. It is called the "Cush-O-Liner", and is patented. It is designed to increase the life of old tires which are worn thin, cracked, rough inside or broken; and protects the inner tube from sharp rocks, glass, nails and

Relief for worn tires

tacks. It is a strip of strong thick cotton padding manufactured to the correct shape to fit between the inner tube and the casing of a tire, and is made in all standard sizes. Extensive tests have been made on passenger cars and trucks equipped with badly worn tires, and was proven to prolong the life of these tires and to protect the inner tubes from damage. William D. Ellis is president of Southern Mills, Inc., and Ralph Baker is head of the mill's experimental department credited with the invention of the "Cush-O-Liner".

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### New Fluorescent Fixture Circuit

A new circuit for fluorescent lighting fixtures and a specially designed ballast control unit, which saves critical metals and improves lighting efficiency, has been developed by the lamp department of General Electric Co., Nela Park, Cleveland, Ohio. The new circuit permits the use of only one ballast—or control unit—with four 100-watt Mazda fluorescent lamps in place of the present 100-watt fluorescent fixtures which require two ballasts for four lamps. A special split-phase fluorescent ballast was designed for the circuit.

The two lamps in each phase of the new circuit start in sequence and operate in series. Thus, one ballast does the work of two, effecting important economies in any fluorescent installation where the new circuit can be used. It is designed for use only with 100-watt fluorescent lamps and on 254-, 265-, and 277-volt circuits.

◆

### New Spectrum Chart

A new seven-color wall chart of the entire electromagnetic spectrum has been developed by the research laboratories of the Westinghouse Elec. & Mfg. Company, East Pittsburgh, Pa. It is approximately 30x40 inches, printed on heavy white cloth, and is bound at top and bottom in ⅜-inch black-enameled wooden rods. Every part of the electromagnetic spectrum, of practical significance, is analyzed in detail. Emphasis is placed on uses of each kind of radiation. Spectral terms are carefully and simply defined in a special glossary. The price of the chart is $2.00, packed in a substantial closed cardboard tube.

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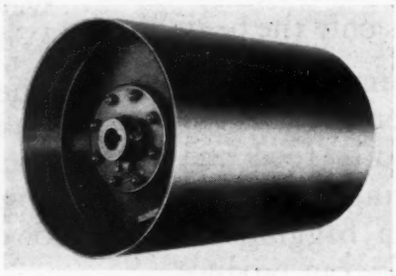
### New Tight-End Conveyor Pulleys

American Pulley Co., Philadelphia, Pa., has developed a solid conveyor pulley for belt conveyors. It is made with tight ends, is easily kept clean, and no spilled materials or dust or



Tight-end pulley

water can accumulate inside the pulley. It is made of rolled steel, is light in weight, and has removable, interchangeable hubs for quick, easy mounting. The diameters are 6 to 36 inches.

◆

### New Paint

The Harrington Paint Co., Inc., 1630 Collamer Ave., East Cleveland, Ohio, have announced the development of a new paint, "Rust Eeter No. 66", which, it is pointed out, withstands formic and acetic acid—both glacial and dilute—is chemically practically inert, and dries in less than an hour. It is offered especially in conjunction with textile uses requiring ability to withstand the action of highly corrosive vapors and steam of acetic and formic acid.

◆

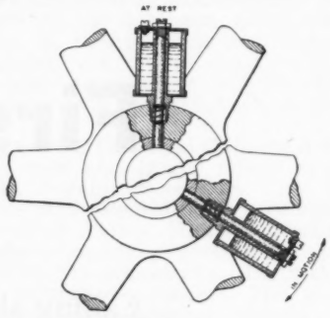
### Hyper-Reset for Fast Stabilizing Control

Foxboro Company, Foxboro, Mass., have announced a new development under the name of Hyper-Reset. It is not an instrument, but a control function, available in the new Model 30 Stabilog controller, for application where process-lag is considerable. In tests it consistently re-established process stabilization, following an upset, in one-quarter of the time, and with only one-half the upset effect, as compared with a similar controller having only the usual reset.

◆

### Loose Pulley Oiler for Positive Lubrication

Oil-Rite Corporation, 3466 South 13th St., Milwaukee, Wis., have developed a new wick type lubricator for loose pulleys, idler pulleys, clutches, etc. It is designed to deliver a con-



Loose pulley oiler

stant, positive and regulated amount of filtered oil to the shaft or bearing while the pulley is in operation, and prevent waste when the pulley is idle. The reserve supply is always visible.

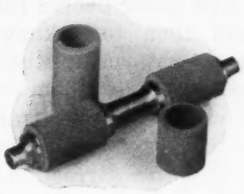
The lubricator consists of a glass oil reservoir on a hollow metal stem which is sealed from the oil in the reservoir except for two small ports at the top. A cylindrical felt wick inside the stem extends through the pulley hub to rest directly on the shaft. A compression spring is wrapped around the wick to hold it firmly in position against the shaft. As the pulley rotates, and the lubricator with it, centrifugal force throws the oil against the top of the reservoir, and into the two ports which admit oil to the wick, which filters out dirt and sediment and conducts the oil directly to the face of the shaft.

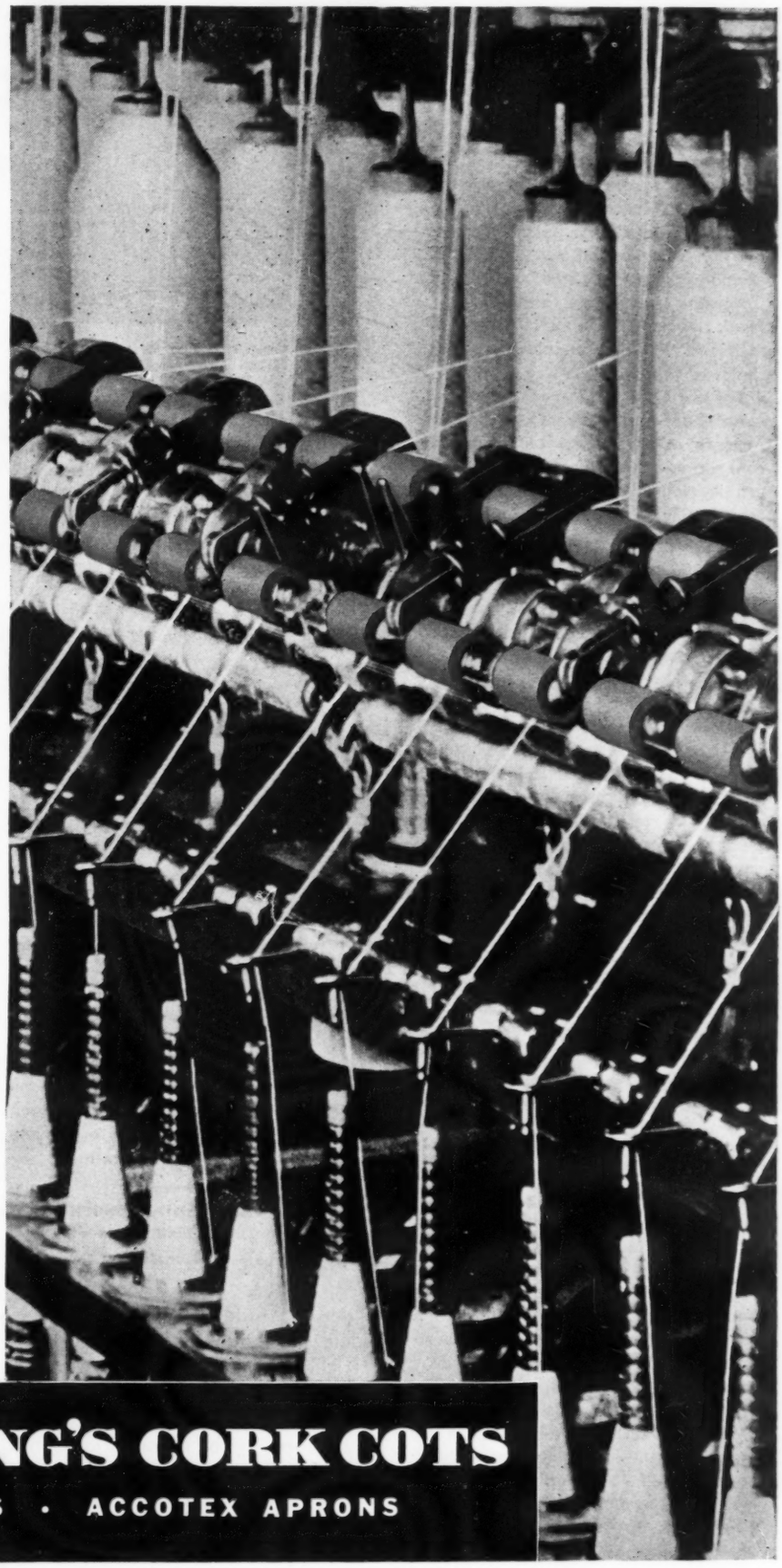
◆

### Maintenance Hints Notebook Now Available

To keep the tools of war industries in full operation, a two-volume set of maintenance rules and suggestions is now available to maintenance men con-

# Why CORK serves the most spindles





Approximately 9,750,000 spindles are running on Armstrong's Cork Cots—more spindles than are equipped with any other roll covering. These Cots have climbed to "first place" because, under all ordinary conditions, they spin the best yarn in the shortest time at the lowest cost.

Here are the reasons: First, cork possesses a higher coefficient of friction than any other roll covering material. This advantage assures positive drafting and prevents eyebrowing. Secondly, cork is more resilient—provides a better "cushion"—which results in better running work. Thirdly, not only is its initial cost low, but cork has proved itself by far the least expensive roll covering on the basis of long-range usage. Armstrong's Cork Cots have a long initial life, and they can be rebuffed 3 to 4 times for greatly extended service.

To make certain that mills using Armstrong's Cork Cots benefit fully from these advantages, Armstrong roll covering specialists are on the road as usual.

And remember—if you need synthetic cots for extra-heavy duty, you can get immediate delivery of Armstrong's Accotex Cots. Orders for Accotex Long Draft Aprons also can be filled promptly. Armstrong Cork Co., Textile Products Section, 923 Arch Street, Lancaster, Penna.

**ARMSTRONG'S CORK COTS**

**ACCOTEX COTS • ACCOTEX APRONS**

cerned with the care of electrical apparatus in industry.

Written by engineers of the Westinghouse Electric and Manufacturing Company, the books total 220 pages and are made up of 15 chapters for loose-leaf insertion in 5x7-inch binders. Each chapter is brought up-to-date and additions will be made as conditions warrant.

Volume One covers inspection of electrical apparatus, insulation materials and applications, the cleaning, drying and testing of insulation, commutator maintenance, starting and regulating a-c, d-c and squirrel cage induction motors. All the necessary information for proper maintenance of insulation and motors is given with diagrams, tables, and charts to make the text easy to follow.

Volume Two is devoted to contactor maintenance, the inspection of transformers, and a chapter on transformer connections. A number of wiring diagrams embrace all of the more common connections for two and three phase, 25 and 60 cycle, power transmission.

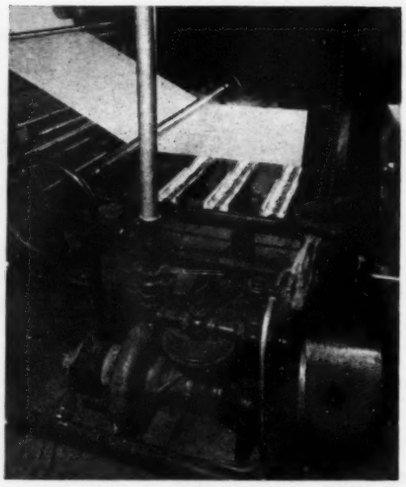
◆

## Applications of Infra-Red Ray Heat in Textile Mills

Red-Ray Manufacturing Co., 455 West 45th St., New York City, manufacturers of infra-red ray combustion equipment, have made a number of interesting applications of this type of heating in the textile industry.

The company's burner creates a high percentage of infra-red rays which generate heat within the cloth upon contact. A perfectly proportioned, high combustible mixture of gas and air is burned under pressure upon a refractory surface which becomes highly incandescent and releases a large portion of the total heat generated in the form of infra-red (heat) rays. The faster the combustible material is burned on the refractory surface, the higher the temperature becomes and the greater the percentage of radiant energy produced. Inasmuch as the radiant energy thus produced is absorbed almost 100 per cent by the object at which the rays are directed, it is desirable to maintain the highest possible temperatures from 2,500 degrees F. to over 3,000 degrees F. The remainder of the heat generated by the infra-red ray burner travels to the object to be heated in the form of hot gases which, besides transmitting heat, help to carry away the vapors released from the material.

Since no actual flame comes in contact with the cloth, it is possible to apply extreme amounts of heat to the cloth. Furthermore, most cloth will not scorch nor burn so long as moisture is present, so wet or damp material may



Infra-red ray heat in textiles

be subjected to almost any degree of heat as long as its passage through the heated zone is so regulated that no high temperatures are present after the last bit of moisture has been vaporized.

In cases where especially delicate finishes are involved, application of the infra-red burners ahead of present drying facilities has been made to remove the bulk of the moisture before the cloth passes to the usual drying process. In such cases, fully automatic controls make the burners operate with the drying machine control system.

Improved "hand" in the goods, and economy in drying costs, particularly from saving in time, are among the advantages claimed.

An especially interesting application of these infra-red ray burners is on slashers, to eliminate the conventional steam cylinders. In this application, the warp yarn is subjected to the rays as it passes over the burners, and fans behind the burners drive fresh air and the products of combustion against and through the threads, thus carrying away the moisture very rapidly. Controls are provided so that the burners shut off instantly if the machine stops for any reason, and the fans continue to blow fresh air against the threads until the machine starts again.

◆

## Training Supervisors

(*Continued from page* 70)

ure through their effect on other people, that make them disliked. These include the inferiority complex, the tendency to play the bully, the fiery temper, the feeling of self-pity, the self-satisfied aggressiveness of the boaster. Men were not born with these traits, but have taken them on in their earlier years. If they have been learned, they can be unlearned. But first they must be admitted. There's the rub—isn't it asking them a lot to admit that these traits are what is holding them back? The first step is to get them to analyze themselves in the light of how other people react to them, and then to acknowledge that things happen to them because they bring them about. Nothing will break these traits except continual endeavor over a period of time to correct them by substituting some positive favorable action.

The purpose in training more supervisors is not only to increase and improve your own operations, but also to have them on hand when inroads are made on your organization to supply more supervisors for the war industries.

The supervisory organization is the very heart of our industries, and we owe it to our country to make that heart just as strong and as resilient as we can.

◆

## Modern Rayon Finishing

(*Continued from page* 74)

current. Run some other type of cloth first to thoroughly heat the frame housing and continue to run cuprammonium sheers until such time that the housing is too cool for effective drying, when another type of cloth can again be run until the house is again sufficiently heated.

After framing, the goods should be very loosely batched to prevent moire. We have experienced excellent results with an automatic take-off attachment. Simplex batchers should never be used on rayon sheers. A calender is never used on sheer goods as a fully-rounded thread is desirable and while decating is sometimes resorted to, its cost generally forbids it on sheers. It is important to note not only from a cost standpoint, but also from a finishing point of view as well, that a shrinkage of 10 per cent in processing these goods is normal, and hence we have emphasized right along that tensions must be watched or a stringy and unsalable sheer will result. The final hand should be very mellow and drapy with full round threads and that pleasant feel which distinguishes a satisfactory finish, but which defies adequate description.

*Is Your Mill*

# "WARP WISE?"

**You are if you're using**

# NALEX

(formerly AMYLEX)

**the Quick-Cooking, Slow-Congealing Starch Product Made Exclusively for Cotton Warp Sizing**

- *For Better Warps:*
  - Strong Film Forming
  - Good Penetration
  - Smooth Yarn Surfaces
- *For Defense:*
  - Saves Tallow
  - Speeds Production
  - Conserves Labor & Material

NALEX is particularly recommended for fine yarns and fabrics

## NATIONAL STARCH PRODUCTS Inc.

820 GREENWICH STREET NEW YORK

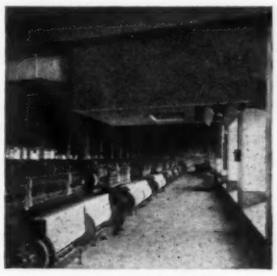


# VITAL HELP

## for old Spinning Rooms and Weave Rooms

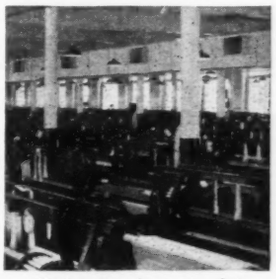
with the help of

## Certified Climate

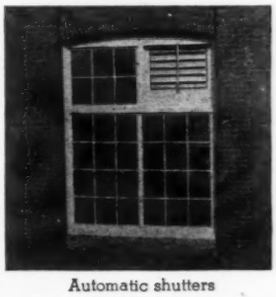


Air enters through mixing chamber

Propelled through ducts, graduated



Uniformity of many outlets



Automatic shutters let heat out

Regain higher and more dependable. Greater strength and more uniformity in numbers.

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.

Fewer Ends Down. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.

Better Product from shorter, less expensive staple. And very often 2% to 3% more production.

*Certified* CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

## Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

# PERSONAL NOTES
## *About Men You Know*

BRIGADIER GENERAL WILLIAM A. MCCAIN, commanding general of the Philadelphia Quartermaster Depot since 1934, has retired. He had been in military service for more than 40 years. In 1928 he became procurement officer at the Philadelphia depot, and four years later was made its commanding officer. COLONEL ROBERT C. BRADY, the depot's executive officer, has been placed in command.

GEORGE R. KAY has resigned as general superintendent of Spindale Mills, Inc., Spindale, N. C., to become superintendent of carding and spinning at the Capital City, Richland, Olympia and Granby plants of Pacific Mills, Columbia, S. C., where H. A. NEWTON is general superintendent and A. D. ELLIOTT is assistant general superintendent.

W. K. DANA, of Saco-Lowell Shops, has become a member of the staff of ROBERT S. DEMPSEY, head of the textile machinery division of the War Production Board in Washington. A son of PHILIP DANA, treasurer of the Dana Warp Mills, Westbrook, Maine, he was assistant superintendent of the Laurens (S. C.) Cotton Mills before joining Saco-Lowell.

J. E. CARTER, formerly overseer of carding at the Mississippi Cottons, Inc., Meridian, Miss., and recently night superintendent at the Pee Dee Mfg. Co., Rockingham, N. C., is now overseer of carding and spinning at the Barbara Mills, Salisbury, N. C.

EDWARD N. BROWER, secretary-treasurer of Rockfish Mills, Inc., Hope Mills, N. C., has joined the War Production Board as consultant on carded yarns, and will also aid in the procurement of carded yarns for war industries.

FRANK H. HILLERY, of Wellington Sears Co., has been re-elected as president of the Textile Export Association. WILLIAM C. PLANZ, of Neuss, Hesslein & Co., was made vice-president. W. RAY BELL, treasurer, and JOHN W. MURRAY, secretary, were re-elected.

LLOYD BREWER has been made assistant superintendent of the full-fashioned plant of Durham Hosiery Mills, Durham, N. C., and is in charge in the absence of H. T. Goss, superintendent, who is recuperating from an illness.

JOSEPH WHALLEY, JR., has been made superintendent of weaving at the Greenhalgh Mills, Pawtucket, R. I. He formerly was general superintendent of the Hathaway Mfg. Co., New Bedford, Mass.

CLAUDE D. MORRIS has been promoted from assistant superintendent to superintendent of the Palmetto (Ga.) Cotton Mills, succeeding W. R. THOMASON, who will serve the mill in an advisory capacity.

H. J. BALL, professor of textile engineering at Lowell (Mass.) Textile Institute, has been made president of the American Society for Testing Materials.

THEO HAMPTON has become overseer of spinning at the Anniston Mfg. Co., Anniston, Ala. He formerly was with the Lanett Mill Division of the West Point Mfg. Co., Lanett, Ala.

W. M. CARLISLE has been made superintendent of the Gossett Mills plant at Pendleton, S. C. He was formerly at the Riverside plant in Anderson, South Carolina.

FRANCIS X. MINICH, formerly purchasing agent of Pendleton Mfg. Co., LaFrance, S. C., has become assistant secretary and comptroller at Gardiner-Waring Co., Florence, Ala.

**Lieutenant Joe W. Richardson, superintendent of the Russell Mfg. Company bleachery at Alexander City, Ala., on leave for the duration, has been assigned as assistant in the production division of the Redstone Ordnance Plant, Huntsville, Ala., following a refresher course at the Aberdeen Proving ground and Picatinny Arsenal . . . .**

J. L. TEAT has been made superintendent of the Fickett Cotton Mills, Whitehall, Ga., succeeding C. G. JONES, resigned.

RAYMOND H. CHASE, superintendent of Johnston Mills, Monroe, N. C., has become superintendent of the Nashawena Mills, New Bedford, Mass.

JESSE WILBANKS has been promoted to overseer of carding at the Central Mills, Central, S. C.

W. L. CLAYTON, of Anderson, Clayton & Co., has been named assistant secretary of commerce in Washington.

### Obituary

DEAN HILL, 54, secretary of the Durene Association of America, New York City, passed away on July 15 in an Atlanta hospital. He had been in failing health for many months. Mr. Hill, captain of the Georgia Tech football team of 1910, was the author of "History of Football".

G. G. (GIB) SLAUGHTER, long identified with the southern textile industry, first as mill purchasing agent and in recent years as machinery manufacturers' agent, passed away at his home in Charlotte, N. C., on July 15, following an extended illness. Interment was in Greenville, S. C.

THOMAS F. GLENNON, 81, president and agent of the Quissett Mills, New Bedford, Mass., passed away on July 15 after an extended illness. He was agent of the mill since it was built in 1910 and since 1939 had served also as president.

J. P. ABNEY, 57, head of the Grendel and Panola Mills, Greenwood, S. C., the Anderson (S. C.) Mills, the Belton (S. C.) Mills, and the Courtenay Mfg. Co., Newry, S. C., passed away on July 12 following a heart attack.

CRAWFORD F. JAMES, 64, head of Elizabeth James Hosiery Mills, Marion, N. C., died in June following a heart attack. He was the father of JACK C. JAMES, also of Marion.

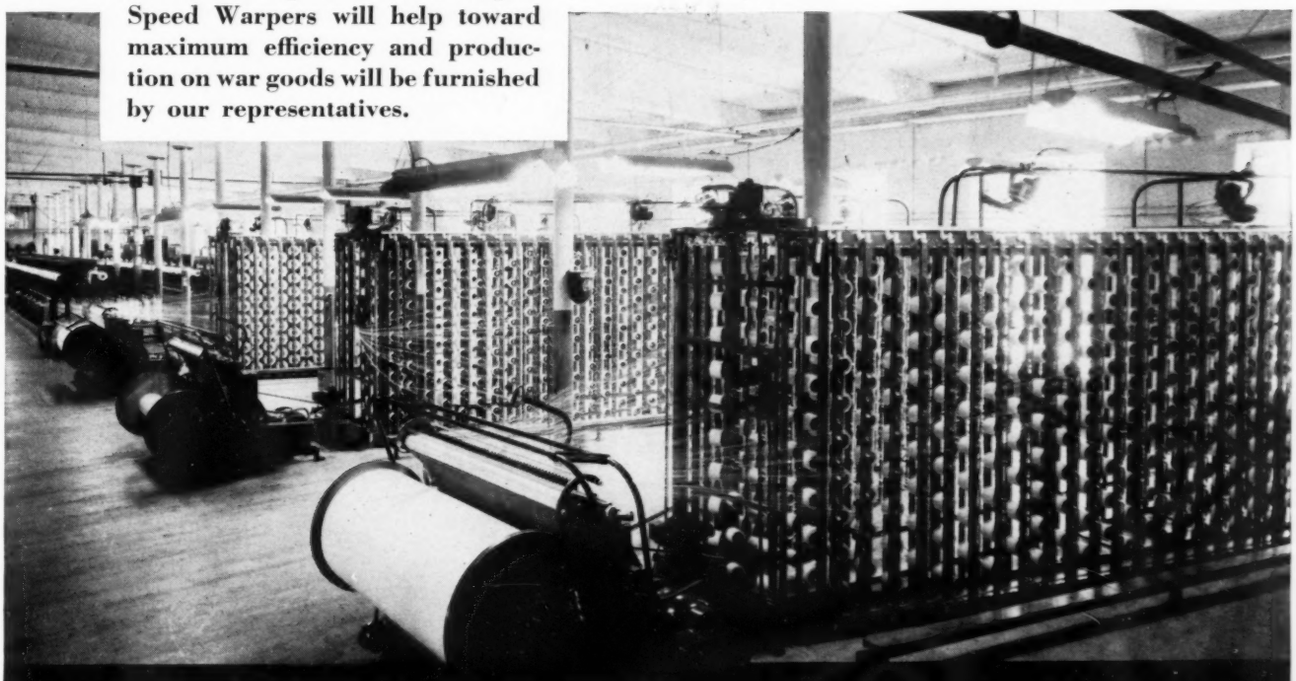
E. W. HOLLISTER, 40, southern representative of Merrow Machine Co., Sjostrom Machine Co., and other concerns, passed away at his home in Spartanburg, S. C., in June.

HOWARD D. COLMAN, president, Barber-Colman Co., Rockford, Ill., passed away in June from injuries sustained in an automobile accident.

## BETTER QUALITY . . . GREATER PRODUCTION

TO HELP in meeting the present demand for large production of high-quality goods, the Barber-Colman System of Spooling and Warping offers many advantages. On this equipment, yarn is handled in such a manner as to provide a uniform high quality of product. Help can be trained to operate these machines in a relatively short period of time, and the production per operator is much higher than on hand-operated machines. Full information on how Barber-Colman Automatic Spoolers and Super-Speed Warpers will help toward maximum efficiency and production on war goods will be furnished by our representatives.

# BARBER-COLMAN AUTOMATIC SPOOLERS SUPER-SPEED WARPERS



**BARBER-COLMAN COMPANY**

**ROCKFORD, ILLINOIS, U. S. A.**

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

# *Our* NEW PLANT *assures you*

√ ***Prompt Service***
√ ***A Sure Fit***
√ ***Long Wear***

On Open and Closed Types

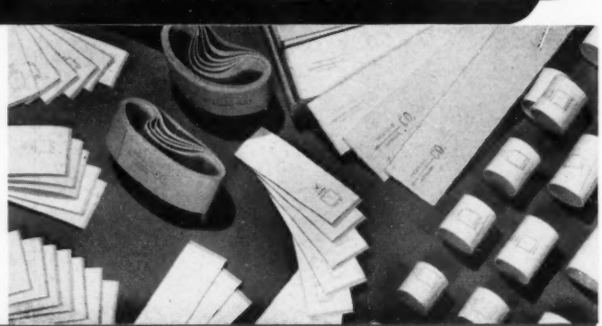
## LEATHER APRONS

for all

LONG-DRAFT SYSTEMS

• When you need Long-Draft Aprons, you need them *right now*—and you want to be *sure* they *fit!* Our new plant, equipped with the most modern machinery (largely of our own exclusive design), and operated by skilled, experienced craftsmen—assures you BETTER Aprons, QUICKER delivery, LOWER prices!

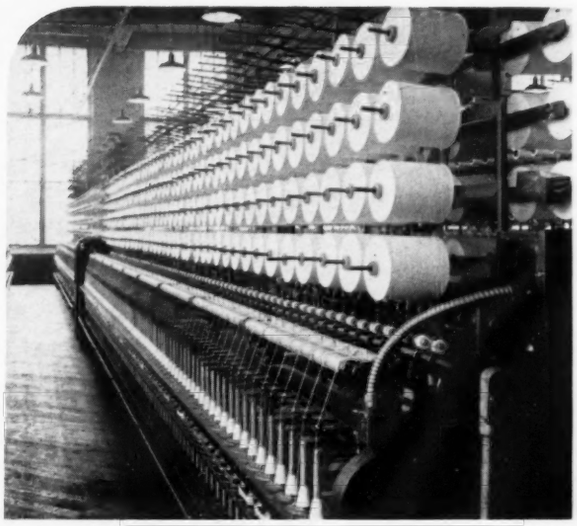
Made of the finest bark-tanned or chrome leather, each Apron is gauge-tested for uniformity—not only with other Aprons in the shipment, but with previous shipments. A *sure fit* guaranteed for all systems. Aprons made to any specifications, or to match samples on short notice. Send us a trial order.

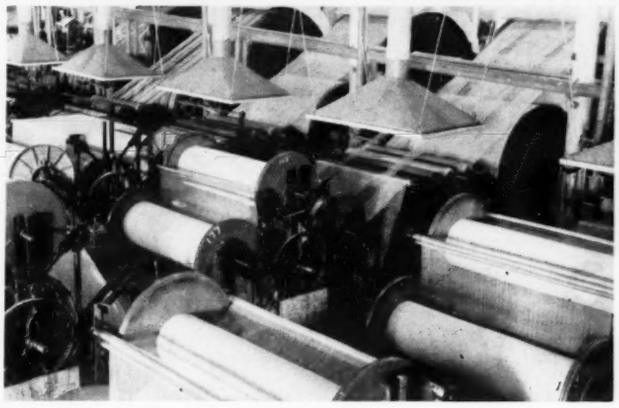


## Textile Apron Company

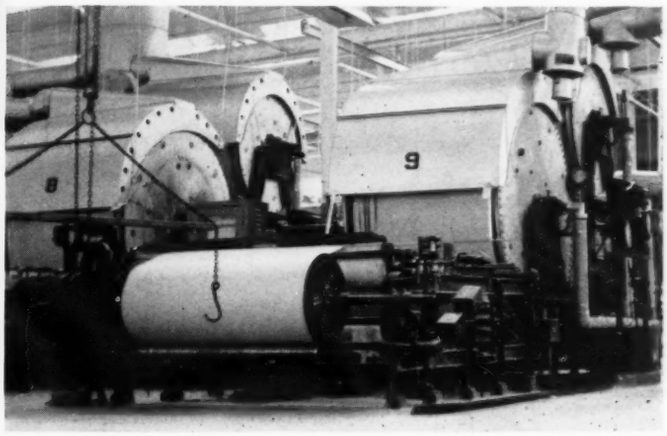
### East Point, Georgia

J. B. KENNINGTON, OWNER





# MODERN MACHINERY TO SPEED WAR-TIME PRODUCTION



*Illustrated: 3 typical West Point Installations*

America-at-war needs maximum output from every mill—which means highest operating efficiency in every department. Top-flight efficiency is impossible unless machinery is modern, and in good working order.

*Other Products*

Slasher Creels
Large Beam Heads
Loom Beams
Beam Barrels
Slasher Equipment
Foundry Castings
Machining
Bachman Guides
Gears—Pulleys

*PROVEN BY PERFORMANCE*

As specialists in modernization and maintenance, we maintain a complete textile repair shop, foundry, and machine shop capable of building new equipment outright or making practically any repair. Patterns for all ordinary textile machine parts are kept on hand. Rough castings can be delivered promptly, and finished machining can be done wherever required.

Today our facilities are being increasingly utilized for the war effort, but we can continue to handle your orders as usual, within the limitations of our war-time assignments.

## WEST POINT FOUNDRY & MACHINE CO.

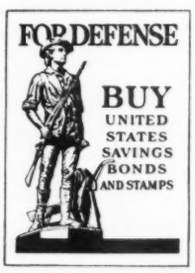
*(Batson-Cook Company, Owners)*

WEST POINT, GEORGIA

# and Product Development is Speeded up

With the raw material situation daily challenging our ingenuity, it is a comfortable feeling to have our forty odd years of research behind us, and safely recorded in our laboratories.

Thus we go on from here—stimulated by the pressure and speed of our emergency problems, confident that many new and good ideas will come of it all.

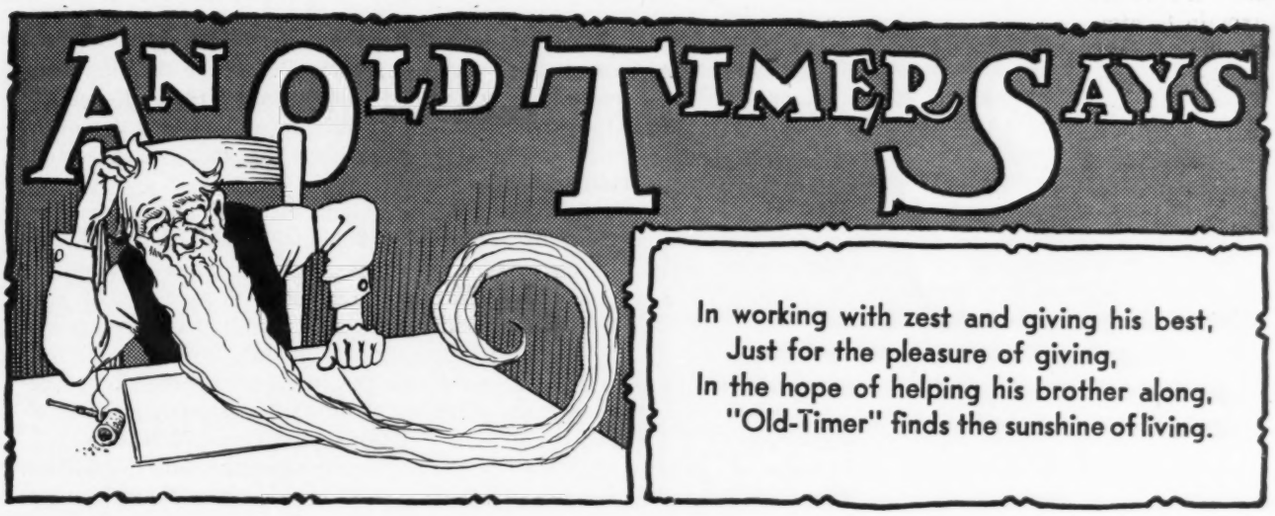


SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

## SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

# "It"

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part in the conversation, while those in *italics* represent JIM'S part.)

*Well, now, this is an agreeable surprise. Sit right down,* OLD-TIMER, *and give an account of yourself. Where have you been so long and why haven't you written me? I had begun to think the draft or something had gotten you, but I see from that sun tan you have that you must have been loafing around some beach. Anyway, you're looking fine, so how about getting down to a little work?*

Suits me, JIM. What's on your mind?

*Believe it or not,* OLD-TIMER, *I have an idea.*

Now that is encouraging, JIM. When people have ideas they usually can do something about it providing they will concentrate on the ideas or idea long enough.

*Sure,* OLD-TIMER, *I realize that is possible, therefore, let me suggest you run that tin lizzie of yours up to the house and talk to the missus until I come to dinner and then we will see if there is anything to this idea I have.*

(After a hearty meal of country fried chicken, cantaloupe and vegetables, OLD-TIMER is filling up his old corncob pipe and JIM has taken on a big "chaw". Say, Mr. Reader, have you ever tried cantaloupe and fried chicken? That is, eat the cantaloupe along with the chicken. Well, try it some time and we think you will enjoy it probably like the first time you had cantaloupe served with ice cream in it.)

O. K., JIM, shoot. Let's have that grand idea of yours.

*The idea came to me this way,* OLD-TIMER: *Remember you wrote an article several years ago which was entitled "It".*

Yeah, and was I kidded about that title! It so happened the article came out at about the same time a prominent magazine had a story about Clara Bow, the screen actress, and styled her as the "It girl", and many of our readers said OLD-TIMER had borrowed the title from that magazine, when as a matter of fact our article had been written two months before the Clara Bow article came out. And to make it still more embarrassing to OLD-TIMER, there was a large office building in a town where quite a few OLD-TIMER readers lived, that put up a big electric sign on the top of the building consisting of only two letters "I T". Those letters were the first two letters of the firm: "Independence Trust". So the readers in that town kidded OLD-TIMER with the statement that he had used the "IT" to build his article on.

*Yeah, I heard about all that,* OLD-TIMER, *but I happen to know your inspiration for that article was a young man, a protege of yours, who was just out of college and had that something we call Personality. In fact, you told me that you could not quite understand how that young man made so many friends without any apparent effort, and you said he had "It" but darned if you knew how to describe it.*

Yes, JIM, that young man was the inspiration for the article entitled "It", and to confirm some of the things we said in that article, that young man is today a very successful superintendent of a large mill, and my prediction is he will continue to go on up the ladder of success.

*So much for that,* OLD-TIMER. *Now, let's get down to my idea and see what we can do about it. With all of this human relations and collective bargaining we overseers and superintendents have to contend with today, I am of the opinion that personality, the thing you called "It" in that article, is of greater importance to the success of us overseers and superintendents today than ever before. We have here at our mills about 50 overseers and second hands on account of running three shifts, and I would like to have some pointers on how to discuss this important item of personality with those men. Can a man who is not specially endowed by heredity with a pleasing personality, develop it?*

Undoubtedly yes, JIM. Let me give you a few simple illustrations: Take any bright young country boy who has never been about much, has always eaten his meals at home, usually in a big hurry to get through to go to the old swimming hole or to get at his chores. He had not had the opportunity to see good table manners or even to respect his own mother as he

should. Now take that young man into your home and explain to him why he should not gulp his food, why he should use knife, fork and spoon rather than his fingers, why he should pull the lady's chair out for her, why he should say "Sir" to his elders, etc. Don't you and every reader we have know that the young man will not only fall right in line with your coaching, but he will enjoy it, he will have a brighter look in his eye, he will begin to realize how much real pleasure he gets out of being courteous to people, he will have an entirely new outlook upon life, he will enjoy being with people, he will study the good manners of other people and emulate them. Yes, he will endeavor to improve on them.

See what I mean, JIM. Well, Personality can be acquired the same way. Any man can improve his personality if he will make a study of it and be ever on the alert to observe in other men what he realizes is personality in those men. Some men can say "No" and not offend you in the least, while other men can say, "Good morning" in a way that will make you mad. One man can get loom fixers to inspect the shuttle every time they go to a loom to tie on a warp or to down a flag, while another man tries it and the fixers say, "To hell with him." One man speaks kindly to his children and they adore him; another man yells at his and brandishes a switch and you hear the kids say "Look out, there comes my old man."

Yes, I know these illustrations are rather amateurish, but give them thought, JIM, and you will find they all have a bearing on Personality. They show you the inner man, so to speak, and they reveal what you may expect if you encounter that man in a business way.

Personality, JIM, is that simple thing which makes you like or dislike a man and how in Heck so many people seem to want to be disliked is a mystery which OLD-TIMER has never been able to solve. Especially when it is so easy to acquire a personality which will make you friends everywhere you go.

You read one book which claims personality is mostly hereditary. You read another which leans toward the physical, another emotional and another the so-called psychological. But they all aim toward the same goal, just as Methodist, Baptist, Presbyterian and all other Christian religions lead toward the same goal. Sure we must admit that some men are naturally inclined toward a pleasing personality which may be termed hereditary, but still it is a fact that many men who have good personalities have parents who are as nasty as any you find. Do not misunderstand me, JIM. I know that a young man who has parents of good personality has a darn good start on the boy whose parents do not have it, but from years and years of study and observation we do claim that any intelligent man can acquire personality and that he can always improve on the personality he already has.

Handicaps may be overcome to acquire personality. For example, last summer when air raid groups were first being formed I had the pleasure of hearing a fine talk made by a veteran of World War I. When the man took the stand many in the audience almost gasped at his looks. He was not only a victim of shell shockk but the whole side of his face had been shot away, leaving him terribly disfigured, and he could only partly open his mouth. Before he finished (and he was not an orator by any means), the audience had forgotten all about his ugly face and twisted mouth; in fact, we did not even see it any more, because that man had *Personality*.

Somewhere I saw a chart entitled Personality as revealed by patterns of behavior, and although I cannot remember all of the items it covered, I do remember a few; probably enough to give you an idea of some of the things you should try to develop and also some of the things you should try to avoid.

Suppose we divide the items into three groups because many authors claim that personality is developed by Mental, Emotional and Physical Habits.

Mental Habits to acquire: Enthusiasm, Confidence, Observation, Initiative, Concentration. Habits to eliminate: Egotism, Pessimism, Lying.

Emotional Habits to acquire: Faith, Love, Hospitality, Loyalty, Tolerance. To avoid: Jealousy, Selfishness, Passing-the-Buck.

Physical Habits to acquire: Energy, Dignity, Cleanliness, Relaxation, Cheerfulness. To avoid: Overwork, Being Irritable, Sour Look, Slouchiness.

You can add many more items to the list when you begin to actually try to build up Personality. Here's one, a very important one I left out: Help Others. That item will give you more real pleasure than you ever expected could be had for so little exertion.

When you hear someone say, "Oh, he was born with a pleasing personality"—that may be true to a certain extent, but don't kid yourself into thinking that the person referred to can't be nasty if he wanted to. He does not want to and that is what you have got to get into that stubborn head of yours if you ever expect to have a pleasing personality. You must *want to*—and want to hard—then you must back up that "want" with a study of yourself. You know when you are not doing the things which go to make a pleasing personality. The trouble is you have never tried to do anything about it. You can't make much progress by simply thinking, "I am going to build up a better Personality." You must take the matter seriously. Start a private record of yourself, something like this:

PERSONALITY SCORE CARD

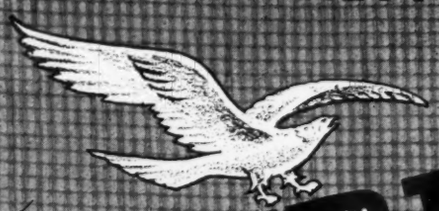
| | Sun. | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
|---|---|---|---|---|---|---|---|
| Friends | | | | | | | |
| Cleanly dressed | | | | | | | |
| Helpful | | | | | | | |
| Unselfish | | | | | | | |
| ..... | | | | | | | |
| ..... | | | | | | | |

Add other items as they come up in your daily life. Take only one item a day to concentrate on, but if one of the other items occurs during your day's work, grade yourself on it, too. Gosh, you say, that is

(*Continued on page* 114)

MARQUISETTE • TRICOT • BOBINETTE • LACE

# ☆ MOSQUITO NETTING PROCESSED WITH...



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Cutler

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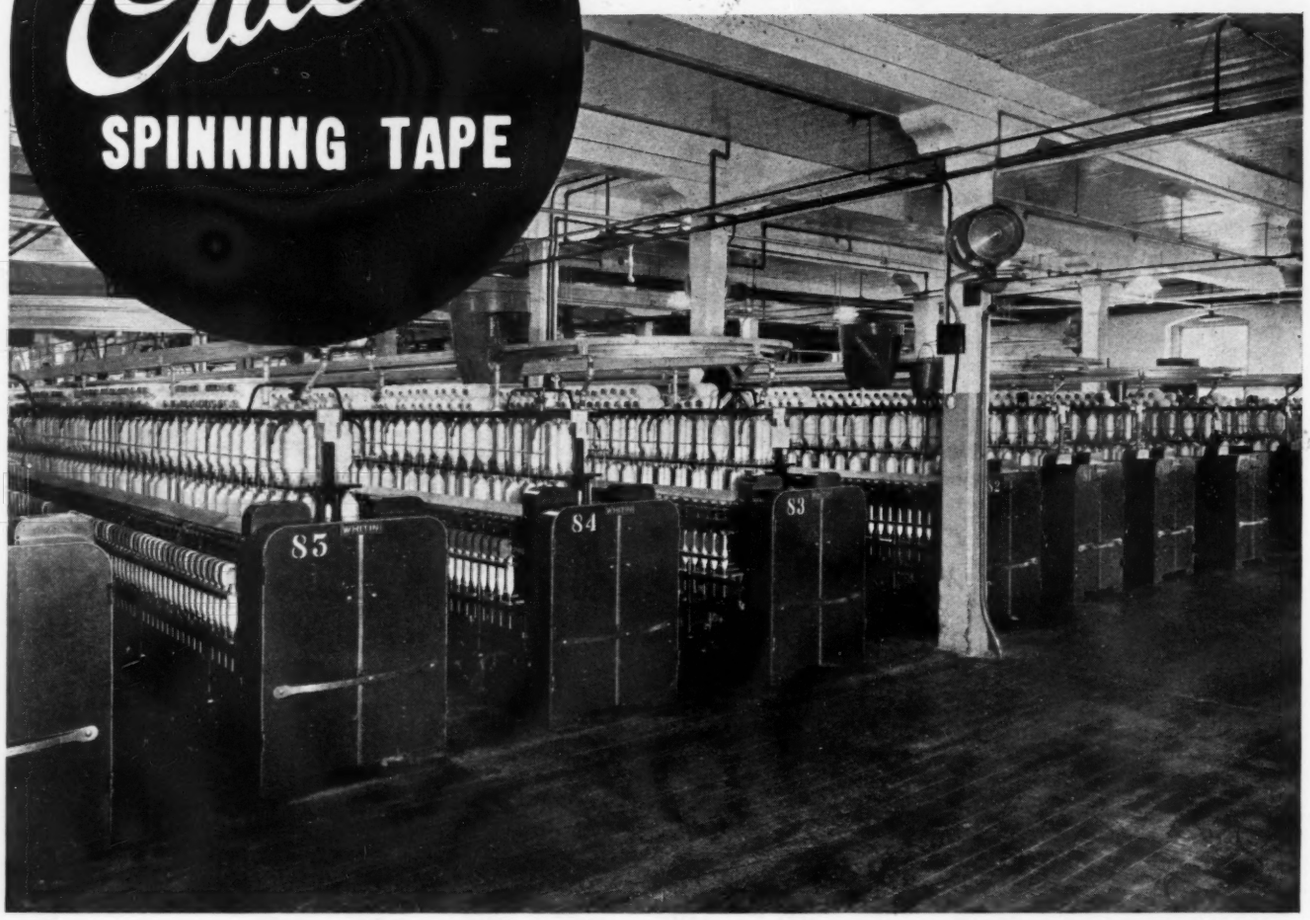


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# HOW OTHER MEN MANAGE

## What Became of the Twist?

**A question concerning the interesting report of "Contributor No. 7368" in the July issue.**

**WE INVITE our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing.**

◆

EDITOR COTTON:

"CONTRIBUTOR NO. 7368" has done a good job on the tests to determine the difference between theoretical and actual twist, as reported on page 121 of the July issue of COTTON. I admire his patience in making so many individual tests on each spindle of a 216-spindle spinning frame.

However, there seems to be a discrepancy between the results of the actual twist in the yarn, as determined with a Smith tester, and the twist that should have been in the finished yarn according to the *actual* traveler revolutions per minute and the *actual* speed of the front roll on the finished bobbin. His report would have been even more interesting if he had continued his investigations to explain this discrepancy.

The *actual* front roll speed on the full bobbin was 154.5 r.p.m. Therefore, (154.5 × 3.1416) = 485 inches of *untwisted* yarn was delivered per minute. Twist is inserted between the front roll and the traveler, causing the yarn to contract. According to the report the twist multiplier was about 4.7. The consensus seems to be that the contraction due to twist with a 4.7 multiplier will be about 7.5 per cent. Then, 485 × .925 = 448.6 inches per minute to pass through the traveler.

The *actual* speed of the traveler on a full bobbin was 7786 r.p.m. 7786 r.p.m. ÷ 448.6 = 17.35 turns per inch which should be in the yarn on the full bobbin.

The actual T. P. I. in the yarn, full bobbin, was given as 15.56 turns (Smith tester). This gives an unexplained loss of 1.79 turns per inch, or 10.3 per cent, between what should be in the yarn and what the Smith tester shows.

I suppose it can be assumed that the speeds as given are *actual*, as there would be no difficulty in testing the instrument used for accuracy. Assuming the speeds to be accurate, if the traveler is turning at 7786 r.p.m. and if 448.6 inches of yarn are passing through the traveler each minute, there are 17.35 turns per inch going *somewhere*, and it is reasonable to believe that it must be in the yarn.

I realize that the contraction of 7.5 per cent, due to twist, may be open to argument, but there can be no argument as to there being *some* contraction, and numbers of tests seem to indicate that the figure of 7.5 per cent is reasonable for a multiplier of 4.7.

The possibility naturally arises that the discrepancy lies in the tests on the Smith tester. In one place in his article, "CONTRIBUTOR NO. 7368" states that 5 inches of yarn are used for each test, but in another place he refers to the tester as having a 10-inch base. There would of course be a less percentage of error on a 10-inch test than on 5 inches.

It is interesting to observe, however, that the actual twist that *should be* in the yarn, as calculated above, is close enough for all practical purposes to the *theoretical* twist, (17.50 T. P. I.) which everybody uses in determining the twist gear to be used for a given yarn. From the report, therefore, it would appear that the losses in speeds due to slippage just about balance the contraction due to twist.

I hope to see replies to this article from other readers, as I consider this report one of the best that has been published on the subject.

CONTRIBUTOR NO. 7381

## Controlling Sizings

EDITOR COTTON:

"CONTRIBUTOR NO. 7378", on page 124 of the July issue, raises the question as to the best method of keeping correct sizings in the card room, and he says that he has used a system for correcting lap weights in the picker room and wonders if this is better than correcting his sizings at the drawing.

In answer to this contributor's questions, I would say that the experiences of mills which re-circulate the air in the picker room and keep the picker room as well as the card room adequately humidified and under proper humidity control have shown that practically no changes in drafts are ever necessary except when changing numbers or cotton. This seems to prove rather conclusively that if you can send the proper amount of cotton to the card room in each lap, and this cotton is well blended so as to have uniform drafting qualities, you will get the proper weight of drawing sliver without having to change draft gears.

Since few mills have humidified picker rooms and can maintain a constant moisture regain in the laps, it is common practice to use some method of weighing the laps to compensate for variations in the amount of moisture in these. If this compensation is accurate, it will amount to the same thing as humidifying the picker room and keeping the lap weights

constant. These moisture regain correction systems are designed to keep the amount of cotton in the lap constant instead of keeping the total weight constant. Obviously, if the amount of moisture in the lap varies, the total weight of the lap must likewise vary to maintain a constant amount of cotton in the lap.

There are two generally used methods for making these corrections in lap weights to compensate for fluctuating moisture conditions. One of these is by means of an ordinary hygrometer from which readings are taken periodically and the lap weights adjusted accordingly, and the other method involves the use of a direct reading regain indicating instrument. The manufacturers of these direct reading instruments claim that about 400 mills employ that system, so it is quite likely that the majority of those who attempt to correct the weights of the laps for moisture variations use a direct reading instrument. One such instrument is actuated by a small bundle of cotton which of course changes weight with changes in the moisture in the air, and indicates the change in weight as a percentage of regain on the dial of the instrument. In using any moisture correction system it is assumed that since the pickers are fed with the same air which surrounds the hygrometer or the regain indicating device, the cotton coming from the pickers will contain the amount of moisture shown by that device or by a calculation based on the hygrometer. People who have used these correction systems and who have made a great many laboratory tests to check them claim that after the cotton has gone through the beaters and screens on the pickers it will contain almost exactly the amount of moisture which it should contain to agree with the relative humidity in the picker room. By adjusting the weights of the laps to agree with this moisture regain, the laps will all contain the same amount of actual cotton.

From this point on, it is of the utmost importance not to make any sizings unless these are made under controlled standard atmospheric conditions for testing, or unless these sizings are corrected for moisture variations in the same manner that the laps have been corrected. It is perfectly evident that if the picker room shows only 5 per cent moisture regain, and the laps have been made light on that account, the drawing is going to size light if the place where the sizings are made is not properly humidified, or if no allowance is made for the dryness of the sliver. A number of mills which do not have thoroughly humidified card rooms use this same moisture correction system for checking the weight of sliver and roving. The method of making these sizings with respect to moisture regain is exactly the same as the method of correcting a lap weight.

I have known of cases where the weight of the lap was corrected, but the mill had little or no humidity in the card room, and when the sliver weighed up light, they would change draft gears to heavy it. That of course defeats the purpose of correcting the weight of the picker lap, since abnormally dry sliver has got to size on the light side to make yarn of the proper weight.

If a moisture correction system is used in the picker room, it has got to be used all through the mill, unless of course the mill is well enough humidified with good humidity controllers so that it does not have any moisture variation inside of the plant. Our experience with these moisture correction systems has been that they are very good if properly used, but quite useless unless they are followed throughout the plant.

If a mill has a good blending system, the only reason for changing gears on drawing is to compensate for the variations in the picker laps, and if the picker laps have been carefully weighed, any variations in them that will affect the weight of the drawing sliver will be variations in moisture. If a lap has purposely been made light or heavy to compensate for these moisture variations, the sliver should have the proper weight in a properly conditioned card room, but unless the card room is properly conditioned, the sliver will be just as light or just as heavy in proportion as the lap was, and for the same reason. The moisture correction system has therefore got to be carried all the way through to be useful.

CONTRIBUTOR NO. 7379

# Blade or Spike Beater on Finisher Picker

EDITOR COTTON:

*Are best results obtained from blade or spike beater on the finishing picker?*

CONTRIBUTOR NO. 7294

EDITOR COTTON:

My preference is toward the Kirschner (spike) finisher beater on pickers. This beater opens the stock in an extremely nice fashion preparatory to carding. The Kirschner beater will not take the abuse that a blade beater will stand, and it requires constant watching, however.

With the older opening systems, frequently particles of iron would get mixed in with the stock. When this occurred and the metal came in contact with the Kirschner beater, the pins would become flattened down or broken off; consequently the lap would be bad when these pins were damaged. This might necessitate the purchase of a new set of lags for the beater.

Then too, when the beater is inspected after considerable usage, the pins show a very definite wear on the points. These points become bent or worn from contact with the stock. Very often this wear takes the form of making a burr on the back side of the point; that is, the side of the pin which does not beat against the stock. These burrs on the spikes will make more nips than most anything else. When this occurs the safe thing to do is to replace the lags of the beater. However, these burrs may be filed down and smoothed off.

In the case of a blade beater under similar circumstances, the ends are swapped, thus giving a new beating surface to the beater. In the case of mixed fibers the work of the Kirschner beater is almost indispensable.

CONTRIBUTOR NO. 7308

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# How to "Box" a New Shuttle

You can keep your shuttles in better condition and your loom running better if you will carefully "box" your new shuttle.

The following set of simple rules has been generally adopted for a number of years throughout the textile industry as the best way to install new shuttles and get the best results.

See that the reed is smooth and without sharp edges or burrs, and the reed is parallel and squared up correctly. See that the fork and grate are correct.

Remove all possible rough places on race and in loom box. See that the slot in the lay end where the empty bobbin is discharged has no sharp or rough edges.

See that the bobbin support is in good condition.

See that the battery is tight on the stud.

If the binder is worn badly, replace with a new one or re-cover. Sand all rough places and edges. If the loom box leather is in bad condition, take time to replace. This also applies to the box mouth leather.

See that the box front is set so that the point of the shuttle tip will be exactly in the center of the picker stick slot in the lay end.

Set the binder eccentric stud to the correct point—adjusting the binder opening by means of the stud.

If the picker is not in splendid condition, put on a new picker.

See that the picker is parallel. This is very important.

Adjust the packing that is back of the picker in the lay end to see that the shuttle is in proper position for bobbin transferring. The shuttle should be permanently set so that when the new bobbin is transferred into the shuttle, the first and second rings (nearest the butt end) of the new bobbin will straddle the first ring on the old bobbin.

See that the transfer hammer is lowered sufficiently to insert the bobbin correctly in the new grip, which is naturally stiffer than the grip that was in the old shuttle. The hammer has most likely been raised as the old grip weakened or became limber. Also see that the hammer does not roll the bobbin in on either side of the shuttle.

See that all shades of harness are adjusted correctly and level. If not, you will have much trouble.

Be sure that all the power possible is taken off of the picking motion.

Power adjustment can be made easier; important —the reed and harness motions determine the shed; therefore, it is better to be sure to see that the reed closing is correct.

The shuttle should enter the shed when the shed is ready for receiving it and should be leaving the shed on the opposite side of the loom, when the shed is not too tight on the shuttle.

Do not pick the shuttle out of the box too early as this will cause "wash-boarding" of the shuttle.

A late picking loom requires more power.

Determine the power by adjusting the power on the picker sticks so as to get the shuttle across the loom on proper time. Then adjust the binder and check strap on the opposite end of the loom to hold the shuttle.

The dagger should clear the "frog" at least one-half inch.

Inspect every loom as often as possible to see that the shuttle is boxing correctly, at least once every shift.

The time to make all necessary loom adjustments is when the warp is out. Then the loom will run out the next warp with very little trouble or adjustment.

The foregoing instructions on "boxing" a new shuttle were taken from a "better weaving chart for the better care of shuttles" recently published by the Southern Shuttles Division of Steel Heddle Manufacturing Company, Greenville, S. C., and distributed to the mills in an effort to assist in securing greater efficiency from shuttles. The chart also included the following recommendations:

Keep shuttle smooth with fine emery or sand paper. Do not rasp with a file or scrape with a sharp blade.

Polish shuttle with a mixture of one half shellac and one half linseed oil, also use a little tallow.

When aligning or straightening grips it is best to remove the grip from the shuttle. If attempted while in the shuttle you may crack the shuttle or break the grip, or just re-locate the trouble.

# Don't Spread Grinders Out Too Much

EDITOR COTTON:

Today, many mills have extended the work load on the card grinder unwittingly and in a manner and extent which may seriously interfere with his routine but nevertheless important task of keeping his section of cards in prime working condition. We refer specifically to those mills which have increased the number of cards assigned to the card tender. In a few mills, where the card tender had an assignment of 20 to 25 cards, this number has been raised to 40 or 50 and in one case even 60. In this latter mill, however, the card hand does not have to hang the laps or set out the empty cans.

When the card tender has 40 or more cards to lap, clean and doff, he must keep on the move and watch every step he takes. There is no time to lose if the job is kept up. Consequently, there are more tailings going through to cause licker-in chokes and card break downs, more screens to be set on account of being knocked down by chokes, and more smashed clothing originating from the same source. The usual quota of cards for the average grinder is 30 cards. If he is called upon to put up three cards in the usual 8-hour shift and to start three cards to grinding, he has about all that he can do, when the time required to do this work correctly is added to that consumed in fixing belts, making minor repairs, and attending to other details on the section. Thus, when in addition to his normal tasks he must unchoke three times as many cards and spend plenty of time raising bent licker-in teeth, lifting up smashed-on clothing, replacing screens which have been knocked down, something

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must suffer and it will probably be the routine card grinding operation.

It is, therefore, reasonable to suggest that when spreading the work load of the card tenders, the number of cards assigned to the grinder be reduced to allow for the time necessary in taking care of the increased number of little jobs that the grinder must take care of to keep the cards in production.

CONTRIBUTOR NO. 7377

# High Card Speeds? No!

EDITOR COTTON:

On page 144 of the April 1942 issue of COTTON I find the following questions with regard to card speed put by "CONTRIBUTOR NO. 7350":

1. If the doffer speed is changed from 6 to 9 r.p.m., I feel that the licker-in should be stepped up from 400 to 600 r.p.m., in order to get the same cleaning.
2. Is that true?
3. If so, what should happen to the settings?
4. Should they be opened or closed, and if so, how much?

Let us study the first question:

Why are the teeth in the licker-in fillet arranged spirally? The licker-in teeth pass through the fringe of fibers at such a high velocity that if they are not scattered over the shell of the licker-in, a tooth will strike the fringe of cotton exactly where the previous one struck, thus injuring the fibers.

In order that this may not happen, several separate spirals are laid side-by-side, the distance between two rounds of any one spiral being 1-inch.

From such an arrangement it should be seen that as the teeth of the licker-in pass through the fringe of cotton, a lateral action is obtained at all times which makes it impossible for the fibers that have received a combing action from one spiral of teeth to fall or come back to the same groove.

It can likewise be seen that the fibers are not straight when hanging over the nose of the feed plate, and must have been stripped of any foreign matter.

Machine builders are not asleep. They know that a licker-in surface speed of about 1,000 feet per minute will clean the sheet of lap. A higher speed may take the stock around a second time.

My answer to the second question is *No*, for the reasons explained in my answer to the first question.

In answer to the third question, how can the speed of the licker-in change the settings? When you speed the licker-in, the teeth strike the same inch of lap oftener—that is all.

Answering the fourth question, I would state that settings should not be changed for the reason that a high speed acts oftener on the fibers and makes no difference in the settings. Would you change the settings on a picker if you speeded up the beater? Of course not. Should you speed up the cylinder to say 200 r.p.m., what would happen if the fillet should break? Think it over.

WASH (R. I.)

# Preventing Tapes from Jumping Off Spindles

**Method given to set idler when overhauling tape carriage pulleys on spinning . . .**

EDITOR COTTON:

*When overhauling tape carriage pulleys on spinning frame, please give the best procedure so as to prevent tapes jumping off during the following months, especially on Fales & Jenks spinning?*

CONTRIBUTOR NO. 7296

EDITOR COTTON:

When overhauling tape carriage pulleys on the spinning frames, it is most essential that the idlers are placed correctly. It is a very good idea to first mark on the idler bar where each idler is fastened before it is removed. This can be done either with a scratch-awl or a center punch.

After the idler is placed back on the idler bar at its proper place, then the angle of the pulley may be set by using a jig. This jig can be made from a piece of wood. Take a wooden plank and cut one end at an angle to correspond with the angle at which the idler runs when properly set. The other end of the plank is set squarely on the floor. This gives a rough guide for setting these idler pulleys.

The guide may be fitted to the pulley and support so snugly that these angles will be practically the same.

CONTRIBUTOR NO. 7303

# Revolving Clearers

EDITOR COTTON:

*Do revolving top clearers for drawing frames justify the expense of installation, and if so, how?*

CONTRIBUTOR NO. 7292

EDITOR COTTON:

I have found that the revolving top clearers of drawing frames are very desirable since they keep the top clearer waste from accumulating and dropping into the stock. I do not think that they fit over the circumference of the rolls as snuggly and clean the rolls as well as stationary clearers, however.

If the individual drawing tenders are able and do keep these stationary clearers picked and in good condition, then the revolving type clearers have nothing to offer in advantage over the stationary type. However, most of the drawing operatives are inclined to neglect this picking of the clearers until the waste turns loose in such a quantity as to choke the trumpet and thus break down the end of sliver.

In running colored work there is no safe schedule for picking these clearers because some stocks make an unusual amount of clearer waste, while the waste from other colors is light. There is one point which should be made here, and that concerns the neglect of the bottom clearers. This criticism is especially applicable to the drawing frames which have the revolving type of top clearers.

CONTRIBUTOR NO. 7310

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## An Old-Timer Says—

(*Continued from page* 104)

going to be a lot of bother. No, not after you get started on it. Besides, no man has ever accomplished much without some effort.

Reminds me of the young man getting his college degree. He went home, secured a good book to read, lit his pipe and sat down to wait for Success to come along. One night, hearing a rap on his door, he said, "Come in". Success opened the door, and the young man gazed in amazement, saying, "You look like Hard Work to me", and slammed the door in the face of Success. You gotta work for it, brother.

But what a source of happiness once you do make up your mind to go after it and begin to see yourself improving. It takes backbone, determination, to make yourself carry out any program of study. But once you get over that first hump, it is no longer hard. It becomes a pleasure and an inspiration because you realize you are *master of yourself* and that you are on the road to success.

You earn your living by your work in the daytime, but your promotion comes by studying at night. Do you know about the OLD-TIMER course of study which is free for the asking?

Start yourself a personal file, and as you get an idea from reading an article, file that idea under its proper classification. For example, if you hear some man explain a better way to get an even card sliver, file that under Cards. If you read an instructive article on spinning, clip it out and file it under Spinning, If you hear a good talk on Loom Fixing, make notes of the talk and put them in your file on Weaving. Build up a file of useful information which you can look through from time to time and get new ideas to apply to your work. All you need for such a file are regular 8½x11 letter file holders and a box to keep them in.

Most any man you ever hear speak will say something of interest to you, and the reason you do not profit by all these things you hear is you soon forget them. But if you will make notes of the items you are interested in and file them in your file, then you will begin to build up a store of knowledge which will be invaluable to you in your work.

By the way, JIM, the file you started several years ago must have a lot of good information in it by this time.

*Who, me? Oh, yes, yes. You were asking how many miles it is to—*

There you go. Asleep again. I said files, not miles. Why in Heck did you eat so much dinner, anyway?

*No,* OLD-TIMER, *I wasn't asleep. I can concentrate better with my eyes closed.*

Yeah, and you seem to sleep better with your eyes closed, too.

*Oh, I heard all you had to say about Personality, and I think it is gratifying for men to know that Personality can be acquired, that a man can improve on his personality the same as he can improve on his manners or improve on an ugly disposition. All of this of course depends on the man. That is, he must make a study of the problem, and I suppose that explains why you sent me that large book on Human Relations and Collective Bargaining. Although we do not have a union contract, you want me to study that book and be prepared in case we ever do have to face those problems.*

Right you are, JIM. Even if you never do have a contract with the union, you should study the book, for the valuable information it contains not only in regard to contracts and rulings which have been handed down by courts and arbitration boards, but for the direct bearing human relations has on personality. Never before in the history of textile manufacturing has personality played so important a role in the success of overseers and superintendents. Overseers and superintendents all over the country have lost their jobs because they were not prepared for the "new order" of management which confronts all men today, matters not whether they are working under a union contract or not.

It is simply appalling to see the number of overseers and superintendents who have been successful manufacturers, men who have been with one firm for 10 or 15 years and have proven beyond any doubt that they know how to run their jobs until this great change in relation to management of operatives has come about—then to see them lose out because they have not been alert enough to prepare themselves for the big change. Personality, JIM, is a big factor in the new order of textile management, and the man who does not wake up to that fact and study like the dickens to prepare himself for it will be lucky if his name does not appear in the textile magazines as "Retired".

You do not have to be an expert in psychology to make an intelligent study of yourself. In fact, if you will only apply to yourself your observations of other people you will be getting somewhere fast. You notice the speech habits of people you come in contact with, you notice their dress habits, you notice their behavior, you notice their likable ways, you notice how they please or displease, how they get things done or fail to get them done—

O. K., then, if you can analyze such traits in other people you certainly can analyze them in yourself. But remember, you must write down, not just think, these impressions and study them; study yourself the same way as you would study anyone else, but do it systematically and you will profit by it.

If you work 40 hours per week and allow 56 hours for sleep (which you do not get) and 14 hours for meals (gosh, you sure could eat a lot of grub allowing 40 minutes for each meal) you will have 58 hours left. What are you doing with all of that spare time every week? Could you spare a couple of those hours per day to prepare yourself for that $10,000.00 job, or to be admitted to the bar as a lawyer or to learn any foreign language you would like to learn, or to prepare yourself for any vocation which a college education would prepare you for. In four years, do you ask? No, a college education is usually considered a four-year course, but you have enough spare time, if you will use it, to finish any college course in much less than four years.

Say, is it worth taking up some, yes only a small portion of your spare time, to prepare yourself for promotion, for that position you have always wanted?

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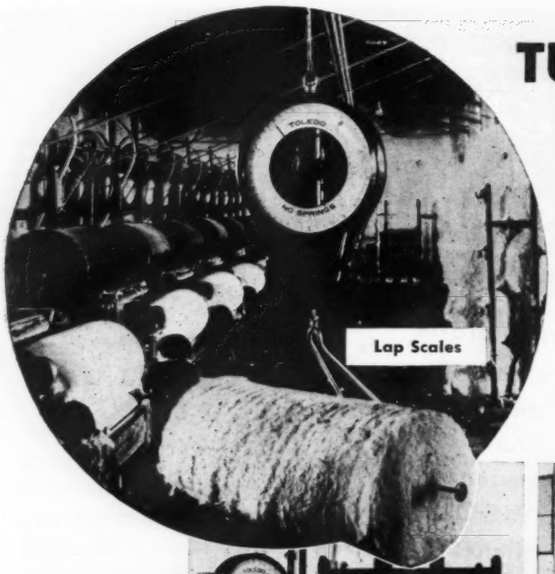


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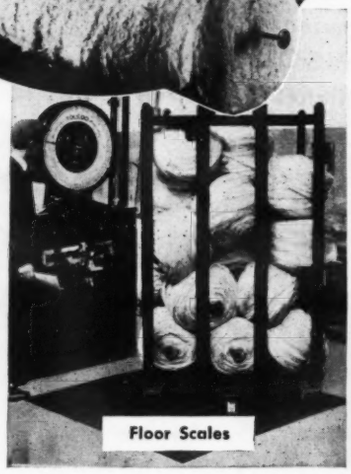

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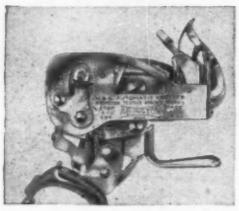

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*Continued on Page 118*

*Continued From Page 117*

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**608. "3 OR 5"**—Series of Textile Dyeing Folders on cutting operating costs with stainless steel equipment.—S. BLICKMAN, INC., Weehawken, N. J.

## DYESTUFFS, CHEMICALS, SOAPS . . .

**704. THE TEXTILE APPLICATION OF METASOL (CALGON)**—Handbook with detail information covering the use of Metasol in Scouring, Bleaching, Dyeing and Finishing.—BURKART-SCHIER CHEMICAL CO., Chattanooga, Tenn.

**707. THICKENING MATERIALS FOR TEXTILE PRINTING**—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine.—STEIN, HALL & CO., INC., New York City.

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**735. NEVILLE RESINS**—Properties, specifications and uses of resins for flame and water-proofing textiles. 64 pages including testing methods, conversion tables.—THE NEVILLE CO., Pittsburgh, Pa.

## KNITTING . . .

**801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

**803. THE TUBE-TEX FOR TUBULAR KNIT GOODS**—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., York and Cedar Sts., Philadelphia, Pa.

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It isn't easy, in the midst of your current problems, to take time out to think how "after-the-war" hosiery trends will affect your mill—*but it is good business.* War is changing the public psychology and creating a new set of values in hosiery. Certain factors are already evident that should be evaluated for their influence on post-war planning.

The shortage of traditional yarns has set in motion a new trend in the hosiery industry. New styling with available yarns already has acquainted the public with the advantages of these yarns and the styles that can be produced with them. And still newer yarns are in the process of development with the future very much in mind. Such changes have lifted hosiery selling out of its rut and given it fresh spice and variety.

Of one thing we can be certain: the hosiery industry will not return to the place where it left off when the war began. Many of today's trends are going to carry over into the post-war world . . . to serve a more discriminating public in a buyer's market. Alert mill management will lose no time in re-directing its efforts and operations into channels cut out by the war's influence.

The type of knitting machines, for example, that will enable a mill to meet these trends after Victory warrant immediate consideration. No doubt you have been turning this thought over in your mind in terms of your mill's place in this "future" market. We have been doing a lot of thinking, too, about mills' post-war problems, and we have some ideas that we think you might find interesting. May we talk them over with you—just drop us a line and we'll be glad to call.

The high efficiency of Scott & Williams knitting machines can *only* be maintained by using genuine S & W knitting machine replacement parts. You can count on prompt delivery, too, from S & W stockrooms at Laconia. Teletype service is free from our New York and High Point offices.

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# KNITTING SECTION

# Knitting Rayon Full-Fashioned

IT IS AN OLD axiom that "we all go up and down together", and if we all make a good rayon stocking, then rayon stockings will be worn by the ladies and keep us all in business. If enough mills make a very poor rayon stocking, then the rayon stockings as a whole will get the reputation of not being worth buying, and none of us will be able to sell our product, whether good or bad.

At our plant we have been running rayon full-fashioned hosiery for quite sometime, and we believe that we have been successful in putting out a good rayon full-fashioned product. With the thought in mind of "keeping us all *up* together", I am passing along some thoughts on processing rayon on the full-fashioned machine, and hope that it will be of benefit to other mills running this product.

The yarn is left in the cases until we are ready to use it and then the cases are opened one at a time.

Inasmuch as our machines are not equipped with conditioning boxes, we set the yarn directly on the yarn board. The cones are supported by woolen bat washers which are about one inch thick, the diameter depending upon the size of cone used.

Where the cones extend over the edge of the board they are supported by cardboard discs. A wooden peg turned to fit inside of the cone and screwed to the board holds the cone and washer in place.

The yarn runs over a brass guide wire, which is directly over the center of and about 12 inches above the cone, and the yarn then runs directly to the tension box.

In some instances it may be necessary to thread the sole or high heel yarns over several wires in order to get a good selvage.

The tension box is made from a regular felt box with porcelain eyes in both sides, with a brass strip being soldered across the top and supporting a post for holding two metal discs. These discs are made of Swedish steel and are shaped as shown in Fig. 1. The discs are placed together in the position as shown at Fig. 2.

We use the following arrangement of discs for various parts of the stocking:

.006-inch thickness for high heel and low heel

.010-inch thickness for main yarn

.015-inch thickness for the welt

It is best to set up a standard arrangement for the size of disc that the mill will use and then keep it that way. If the knitters or fixers are allowed to put more or heavier discs on to correct a trouble instead of finding the real cause, it can readily be seen that this may lead to still greater trouble.

The yarn passes from the tension box to a hair-pin which is equipped with a one-half inch stainless steel ring. The importing of glass rings has been discontinued since the war, which makes it necessary to use steel rings. The

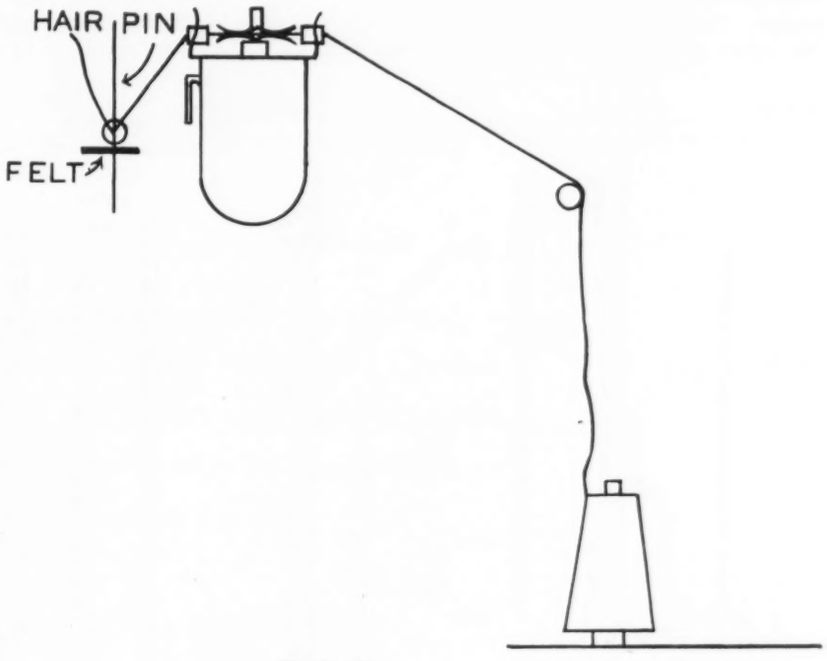



FIG. 3

FIG. 1

FIG. 2

stainless steel rings are very satisfactory, being of a more uniform weight and size than glass.

When putting these rings on, the seam should be placed up to prevent the yarn from coming in contact with it. Should there be a tendency for the yarn to twist under and around the hair-pin while the carriers are not in use, this can be corrected by cutting felts about one and one-half inches square with a slit in the center and sliding them up over the hair-pins.

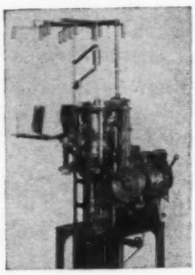
The yarn is then threaded to the carriers which are set slightly below the sinkers. We use a carrier tube one gauge finer than the machine gauge. This permits the setting of the carriers to the inside sinker for the purpose of making a good selvage.

If trouble occurs in the boot of the stocking, that is, if holes appear, which at first may seem to be cutting the fabric but upon closer examination it is found that the yarn is not broken, this trouble usually occurs near the high heel where the carrier lead is greater. The carriers rebound and as there is more yarn between the carriers and sinkers at this point it has a tendency to rise above the sinkers. This can be corrected by tightening the friction.

See Fig. 3, a sketch of our tension box and threading.

# The Komet Machine

## Article 18



REPRODUCTIONS of Plates 41-A and 41-B of the Komet and Links and Links Parts Catalog are shown herewith. These plates show in detail the various operating rods on a four-inch Komet machine. A similar arrangement of operating rods is used on the 3-inch, 3¼-inch and 3½-inch machines. Some of these operate from the *side* cams on the quality drum, whereas on the 4-inch machines all operating rods receive their motion from various cams located on the outer surface of the drum. These various parts are not troublesome and ordinarily require very little attention; however, there are a few things in regard to their care and adjustment which we shall discuss.

### The Toe Take-up Spindle

The toe take-up spindle (302417) must work freely up and down. For lubricating purposes it is advisable to place a small amount of cup grease instead of oil in the spindle groove, since even a fairly heavy oil will run down to the disc (204411) and stain the hose while they are being knit. An occasional application of grease will also prevent unnecessary wear on the groove in the spindle and the pilot screw (302414). The lever (204426) which raises the weight (302418) and spindle should hold the spindle high enough during heel and toe knitting to permit the disc (204411) to fall into the heel and toe pockets when they are completed and the machine changes from reciprocative to circular motion.

The disc (204411) should be held up in the recess

PLATE 41-A KOMET

OPERATING RODS FOR 4" KOMET

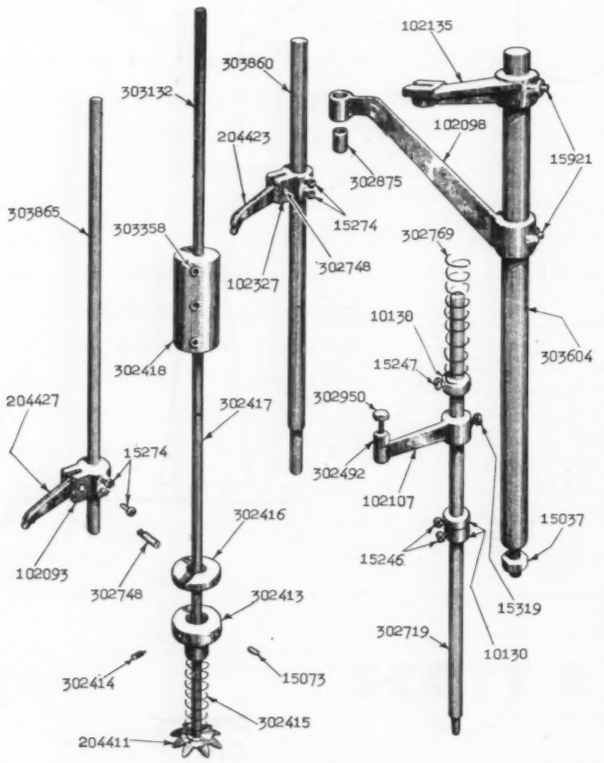
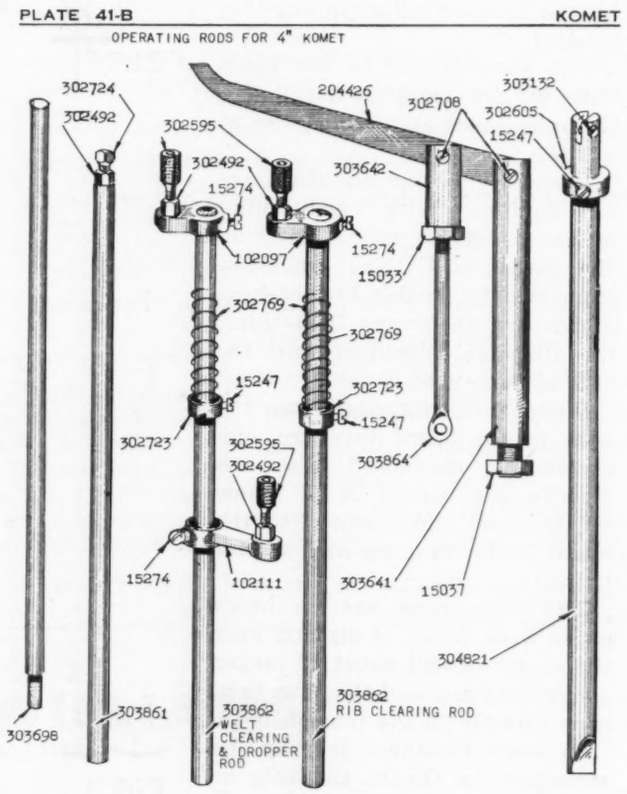



PLATE 41-B KOMET

OPERATING RODS FOR 4" KOMET



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This highly developed product of peace-time demand, American Super-Mercerized Durene, is also meeting our government's requirements for both quantity and quality in many important phases of the production for war.

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of the verge washer located on the under side of the verge so it will not interfere with the formation of the heel and toe pockets. When the raising rod (304821) is fully up on the highest part of a raising cam during heel and toe knitting, the spindle (302417) should have not more than ¼-inch up and down play. This adjustment can be gotten by raising or lowering the spindle in the weight provided the inner end of the raising lever (204426) is set in correct relation to the under side of the weight so it will not slip off when the weight is fully up or down.

Very often fixers get careless when re-assembling a machine which has been torn down for any reason and allow too much up and down play on the spindle during heel and toe knitting. Then they wonder why they have trouble with goods failing to come down after knitting as they should.

The collar (302605) on the raising rod (304821) should be set low enough on the rod to prevent its lower end from touching the quality drum at any time. Sufficient clearance between the lower end of the raising rod and the quality drum is necessary to prevent the rod from binding against the front end of the raising cams when they pick the rod up. True, the front end of the raising cams have been tapered down to a very thin edge, but the bottom of the rod will in time become worn or flattened, and when it jams against the front end of a cam, a bent rod or broken guide will result, with possible other damage as well. The pilot screw (302414) will wear flat on two sides in time. Its useful life can be doubled by giving it a quarter turn; then, too, a flattened pilot screw will help wear out the groove in the spindle more than a round one, or cause the spindle to stick when raising.

Back in the days of elastic tops, we would find rubber wrapped around the spindle above the disc, preventing it from going fully up. Occasionally yarn will do the same thing; then each fixer waits for the man on the *other* shift to remove the spindle and clean it. Sometimes we find a disc which has worked loose on the spindle. It can be tightened with a small hammer in a few minutes.

In most cases, the prongs on the disc have been rounded off at the factory. However, your machines may have been tested on mercerized work and then later at the mill perhaps changed to wool or some soft yarns. This may mean that some additional polishing will be necessary to prevent the goods from hanging on the prongs. Do this immediately if the prongs feel sharp.

Two weights are supplied with each spindle. To date we have not used more than one and have made a fairly good range of medium and heavy numbers on 4-inch Komets. Two weights may be necessary on some types of goods. That will have to be left to the good judgment of the Komet fixer.

### Verge Operating Rod

So much for the take-up spindle. We have called attention to some little things which we see every day. They do cause unnecessary trouble which can be so easily avoided.

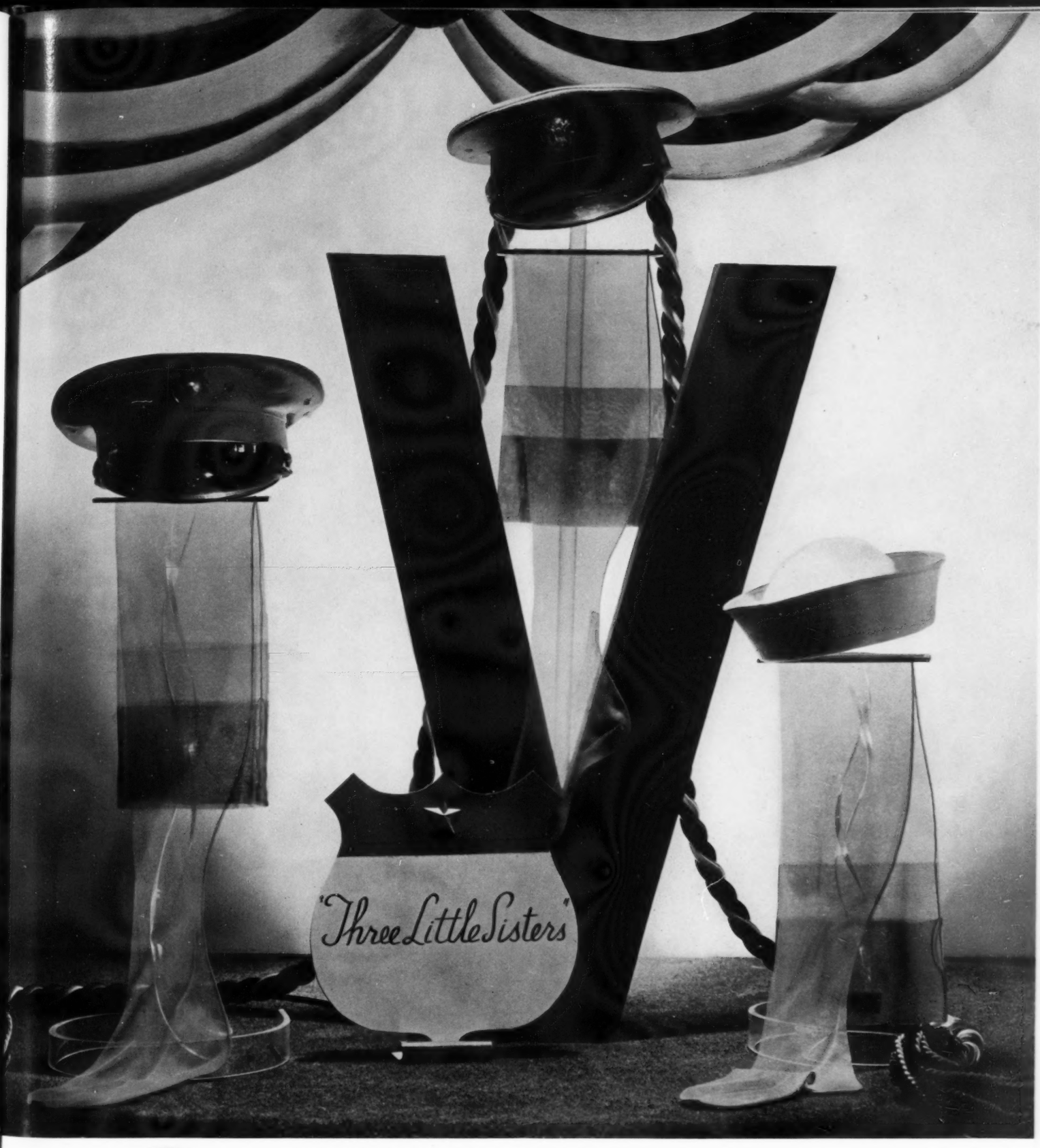
The verge operating rod (303861) needs little discussion since it simply provides the means for lowering the verge into proper position for broad rib knitting. The verge operating rod should not carry any weight except when the rod is up on the drum cams. The stop screw under the verge operating lever should be set so the rod will not be pressed down on the drum when it is off of the cams. The verge *setting* is *important*, and we shall add to our remarks made in an earlier discussion in regard to broad rib knitting.

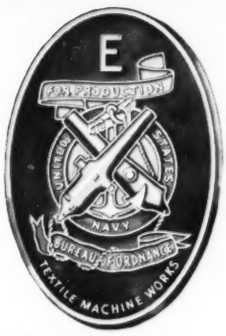
On the Komet instruction sheet used on the test line at the factory, Item No. 11 reads: "Check verge. Be sure that verge screws are tight and that bits line up with top cylinder walls." Item No. 13 reads: "With machine at start position adjust verge to clear sinkers by .005."

Many fixers feel that once they have set the verge to clear sinkers by .005 at the start position, nothing more is necessary insofar as verge adjustment is concerned and that the machine should knit perfect broad rib fabric on any kind or count of yarn. This of course is not sound reasoning; .005 clearance at the starting position is the *minimum* clearance recommended by the machine builders at this point, it does not mean that .008 or .010 clearance may not be necessary depending on the kind and count of yarn used.

Lowering or raising the verge loosens or tightens the broad rib stitches in the same manner as lowering or raising the rib stitch cams. Very often we find a machine with a tight broad rib stitch which we cannot loosen with the rib stitch cams due to their being fully up as far as the slide will permit. This condition usually indicates that the verge is set too high and in most instances checking up will show much more than .005 clearance at the starting position.

There are a number of things we might bear in mind in connection with the use of the verge. First of all, the verge bits are to the upper cylinder what sinkers are to the lower cylinder. The verge is used *only* for broad rib knitting, not for 1x1. Its setting will vary according to the kind and count of yarn being used. Broad rib knitting troubles can be caused by the verge being set too high or too low. Bear in mind also that while broad rib knitting is being done the stitches are pulling in two directions, one against the other, at the juncture of rib and frame knitting. The higher the verge is set, the greater the distance becomes between the two points of knitting and this simply puts extra strain on the yarns. The only safe way to keep the verge set where it will give little or no trouble is to experiment with different styles when counts and kinds of yarn must be changed, and to make a note of the setting best suited to each style. The important thing to remember and *do* is check up constantly and make sure the verge is set where it should be. Never take for granted that it is right. It may get out of adjustment from various causes. For example, it is not impossible for screws which hold the verge operating collar (302413) to work loose. When this happens—and it does—your verge setting is gone. This particular trouble can be stopped *permanently* by spot drilling the verge tube so the

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***Three little sisters . . .*** Every woman knows that there's a difference in stockings — a difference that shows itself in the quality of the fabric. Every hosiery manufacturer knows that no machine can knit better fabric than the needles can produce. Keep your knitting machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

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U. S. Navy "E"—awarded Textile Machine Works July 25, 1941, for outstanding production of Naval Ordnance. The white star is evidence of continuing superior performance.

**"He who neglects the present moment throws away all he has."**
SCHILLER

*Until the Victory is Won!* . . . The men and experience back of Reading Full-Fashioned Knitting Machines are enlisted for the duration. We *cannot* give you new machines — but we *will* do the next best thing: Our engineers will do their utmost to help you keep your present equipment at the point of highest efficiency. *Let us tell you about our complete reconditioning service and what it means in terms of better fabrics and bigger profits.*

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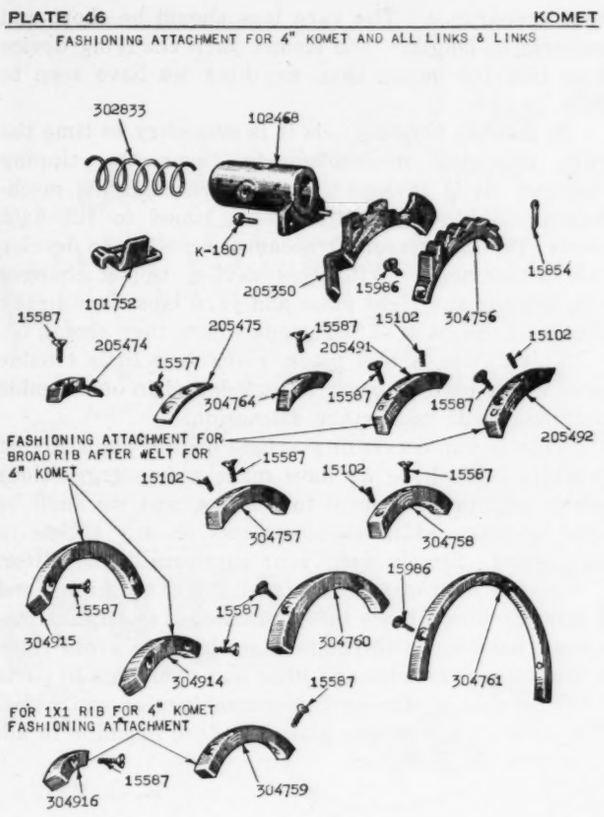



screws will rest in a small recess in the tube and *stay put.* And last, but not least, remember the oil hole in the washer (302416). The verge will not be held steady if this bearing is dry.

### Other Operating Rods

There are a number of other operating rods on the two plates shown herewith. These have all been covered in previous discussions in connection with the parts they operate. Possibly we have overlooked some adjustment in connection with their use; if so, we shall be glad to answer any questions presented by readers.

### The Fashioning Attachment

The fashioning attachment is not supplied as regular equipment on Komets. It can be purchased and applied in the mill at nominal cost. It is both necessary and important that machines used to produce 5/8 or 3/4 length hose, especially ladies' sport hose, be equipped with this device to give much needed extra stretch for the calf and then taper down to a normally tight ankle.

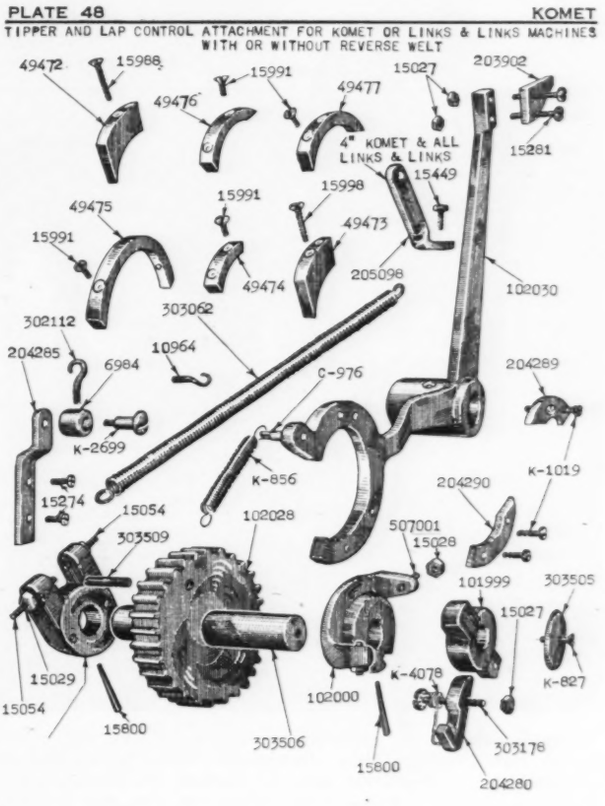
The complete device is shown herewith, reproduced from Plate 46 in the Komet and Links and Links Parts Catalog. It can be applied to any Komet machine. Since this device gives no trouble in particular we shall briefly describe how it operates. A blueprint comes with the device which tells exactly how it should be applied.

The idling pawl plate bracket (102468) and spring (302833) are mounted on the same shaft which carries the racking pawl lever and the yarn changing lever and pawl. The bracket must work freely on the shaft up and down and from left to right. The idling pawl plate (205350) is attached to the side of the bracket and controls the action of the racking pawl while fashioning moves are being made. The racking plate (304756) is attached to the clutch drum at a predetermined point next to the rack wheel and two filling-in cams (304761) are placed behind it. This leaves an opening of several inches between the end of the second filling-in cam and the front of the racking plate. When the clutch drum is moved to a point where fashioning begins, the front end of the idling plate falls off of the filling-in cam and the spring pushes the bracket and idling plate into operating position, permitting the racking pawl to make contact with the racking plate. One regular chain link (101752) being used for each move or seven links all told.

When fashioning is completed, the bracket and idling plate are moved to the left by the front end of the racking plate and held inactive by the filling-in cams until the clutch drum moves around for the next fashioning operation.

The lower transfer drum cam (205474) and upper transfer drum cam replace the regular cams on the drum; a place to attach them is provided. The rib stitch tension cam (205491) and frame stitch tension cam (205492) take care of the fashioning. These cams are provided with adjusting screws which permit raising the front up to loosen the stitch, then gradually dropping down to the normal tension cams immediately behind these adjustable or fashioning cams.

One of the nice features about this device is that it can be adjusted to an inactive position and still be left intact when seasonal changes from one type of



goods to another make this necessary. This is indeed a time and trouble saving feature and speaks well for the machine builders. Changes are costly, any way you look at it.

Now, it may seem odd to the reader that we have not commented on how to prevent or correct trouble with the fashioning attachment as we have done in discussing other parts or devices. Frankly, we have had no trouble. We simply followed the installation instructions and then forgot about the attachment.

### Tipper and Lap Control Attachment

The reproduction of Plate 48 herewith shows the complete tipper and lap control attachment. This device is not supplied as regular equipment and was not available when some of the first Komets were built. It is used only when goods are made which have tipped heels and toes *and* yarn changes or horizontal stripes. For the benefit of Komet fixers who may not have seen this attachment we shall describe it briefly.

In making horizontal stripes it is necessary to have all yarn change laps in the center of the back of the hose or, in fixers' parlance, in the center of the short butt needles.

This means that the yarn changing mechanism must be timed or adjusted to give this result so when the goods are boarded and finished they will have a neat appearance. The yarn laps should be short and uniform in length. The Komet yarn changing device does this job better than anything we have seen to date.

In making tipped goods it is necessary to time the yarn changing mechanism to favor the tipping changes. It is obvious that the yarn changing mechanism could not be adjusted or timed to fill *both* needs; for this reason, it became necessary to develop this attachment. With this device, tipped changes are made in the right place and yarn laps come in the center of the back of the goods where they should be.

This device is well made, gives very little trouble once it has been properly adjusted, and in our humble opinion, needs no further discussion.

This is our concluding article on the plain Komet machine. We hope we have made a few suggestions which will prove helpful to readers, and we shall be glad to make additional comments on any article in this series. Simply write your questions to the editor.

In the next article we shall take up Links and Links machines, since the plain Komet and Links machines have much in common we hope to avoid repetition of past articles and limit our comments to parts which are used only on Links machines or which differ materially from the plain two-feed machine in adjustment or operation.

K. O. METZ

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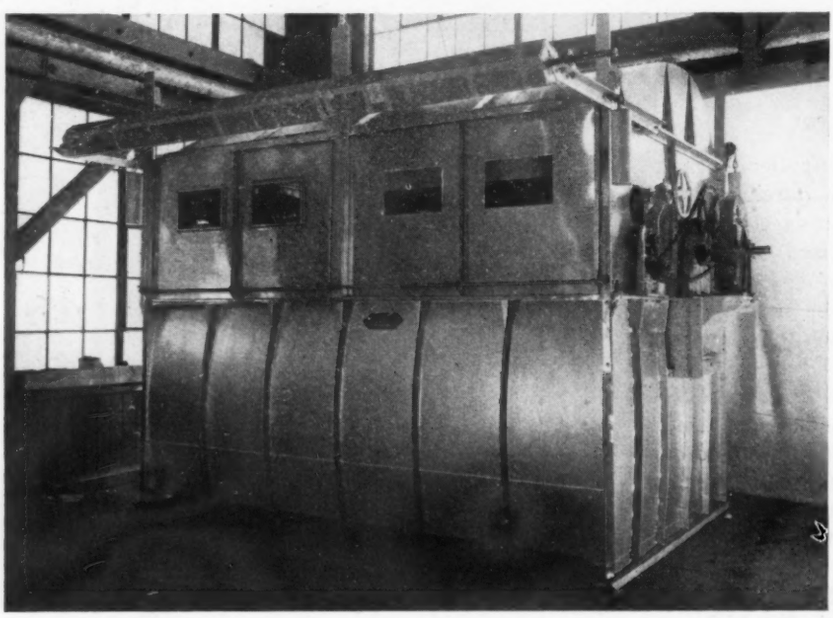
### Stripping for Action

Interchemical Corp., 75 Varick St., New York City, whose divisions and subsidiary companies cover a wide range of industries, has organized the technical and sales staffs of all of these divisions and subsidiaries into a co-ordinated effort to make its varied and comprehensive plant equipment available for war work. Heretofore each company in the corporate set-up has confined itself to its own particular field of operations.

Each division was requested to analyze and report on its production facilities and to list the war products it was making, and these facts were compiled, edited and published in a "Manual of Products". A series of sales organizations meetings was held at which, for the first time, salesmen from all of Interchemical's divisions and subsidiaries sat down to plan together for an all-out war business program. As a result of these meetings and the "Manual of Products", every salesman is equipped to tell what each division is doing and can make. The manual was distributed to Interchemical employees and is available outside the company only to governmental bureaus and other authorized purchasing personnel.



An unusually large stainless steel dyeing machine, shown above, was recently shipped to the Signal Knitting Mills, Chattanooga, Tenn., by the Rodney Hunt Machine Co. This machine, of the all-enclosed type, is equipped for washing, dyeing and bleaching knitted fabrics, and is said to be one of the largest such units now in operation for this type of work.

◆

### Follow Up on Absences

As a part of a department supervisor's plan to improve attendance, some systematic follow-up on absenteeism make a list of the absentees from the clock card records at the beginning of each shift, or have the department clerk make up an absentee list for the supervisor's attention each day. Such a list serves as a reminder to check these men. Thus, when an absentee returns the supervisor will be sure to have a talk with him about his absence.

Before these "heart-to-heart talks", the supervisor should get all the facts, check the man's attendance record, ascertain the inconveniences his absence has caused, and decide on a definite basis of appeal for persuading the individual to abstain from avoidable absences.—*Management Information, Elliott Service Co., Inc.*

*. . . the demand of the day calls for this*

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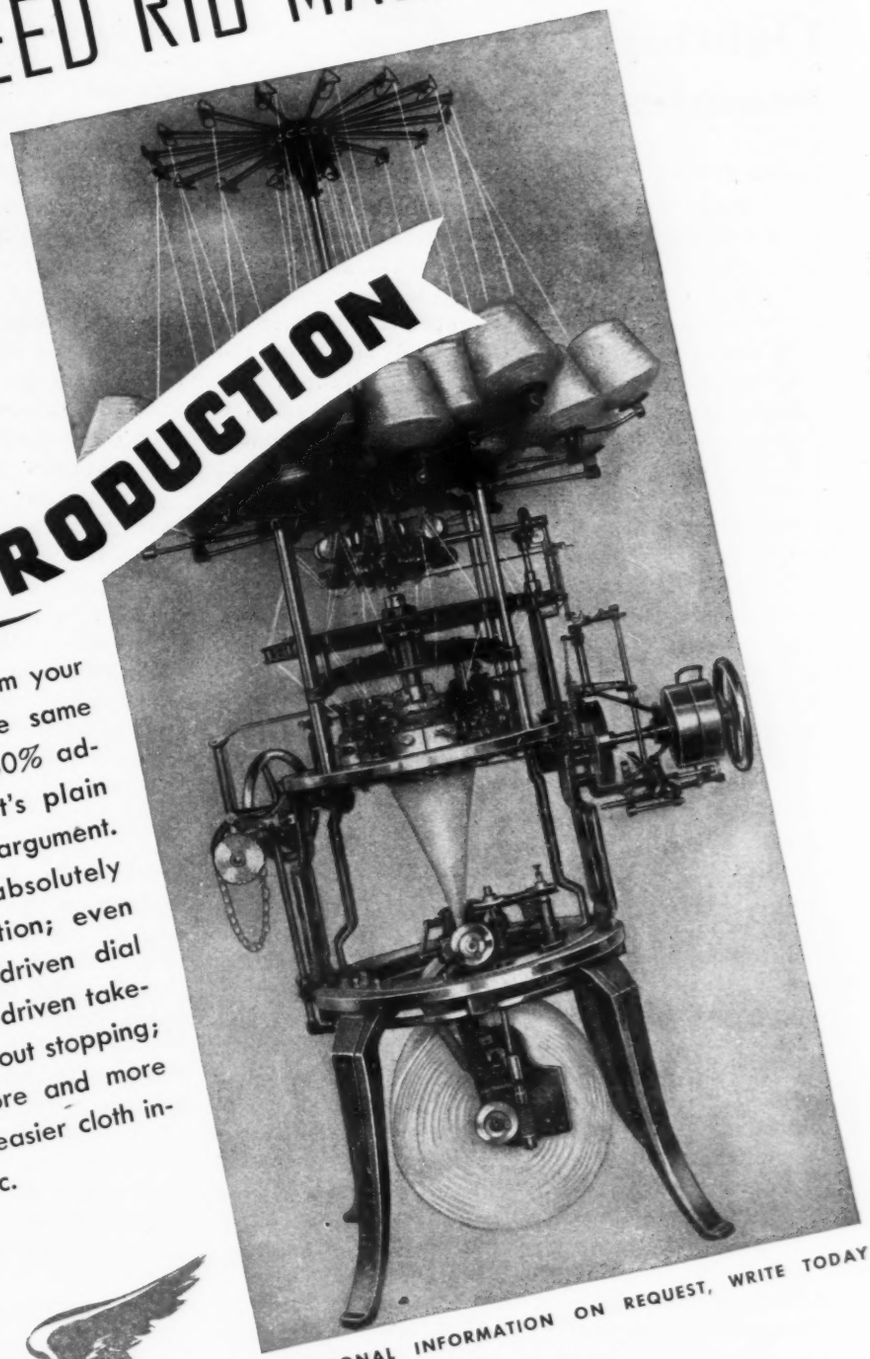

you are now getting from your 8-feed machines on the same floor space with only 30% added power cost. That's plain arithmetic that defies argument.

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# KNITTING KINKS

## Lighting for Seamless Machines

EDITOR COTTON:

I should like to comment on the question from "CONTRIBUTOR NO. 7340" as to the best arrangement for a new lighting system in a seamless hosiery mill.

Before definitely deciding upon the lighting of any area it should always be appraised, first of all from the standpoint of the task involved. When the relative severity of the eye task has been determined, the problem then becomes one of selecting the type and location of that lighting equipment which will more nearly satisfy the requirements of providing the level and qualities of illumination needed for proper visual comfort and maximum productivity of the machinery.

The seeing task within a seamless hosiery mill has been determined by actual scientific tests to be approximately five times as severe as, let us say, the spinning operation or ten times greater than carding or drawing. Consequently, if we accept 20 foot-candles as a satisfactory and conservative average level of illumination for spinning, and 10 foot-candles for drawing, then approximately 100 foot-candles should be provided on the knitting machines of seamless hosiery mills. In fact, this is the recommended level of illumination for modern practice in such areas.

To explain briefly, there are many seeing tasks, and it is obvious that the difficult ones require more light than the less difficult ones for equal ease of seeing. Researches into the "Science of Seeing" have established a fundamental basis for prescribing the desirable foot-candles of light for visual tasks. This is done by means of a visibility meter which actually measures the relative visibility between the different tasks. The foot-candles levels of illumination required for relatively best seeing conditions in a seamless hosiery mill have been determined by such precision instruments.

It should be pointed out, however, that there is a wide gap between even the conservative levels of illumination indicated by the visibility meter and the foot-candles found in practice; the latter advancing from time to time, but at a slow pace because the cost of lighting, methods of obtaining it, and habits in its use are all controlling factors. Furthermore, lighting is always accompanied by a certain amount of heat and radiant energy, which has to some extent retarded the approach to desirable illuminations.

In consideration of the very fine visual work required in fitting the needles in the mesh of the hose, during the transfer operation, one may very well appreciate the necessity of high levels of illumination. If 100 foot-candles are accepted for this operation, then the problem becomes one of the selection and placing of equipment to provide the best seeing conditions.

Fluorescent lighting is generally considered the best type of lighting for obtaining high lighting levels, due to its greater efficiency and cooler foot-candles produced. For this reason we would naturally look to the application of fluorescent lighting to obtain the approximate 100 foot-candles required in seamless hosiery. Furthermore, due to the coolness of the lamp, the fixtures may be mounted fairly close to the work, providing a greater efficiency of foot-candles on the "working plane", and without having the operators conscious of excessive heat.

During our past experiments it was found that continuous rows of 40-watt, 48-inch, 3500-degree white fluorescent lamps installed in a deep, semi-concentrating type of reflector, mounted directly over the knitter, and just below the eye level of the operators, would produce approximately 70 to 90 foot-candles in service on the needles. The 3500-degree white lamps are satisfactory for use on white goods, and the 6500-degree daylight lamps should be used for colors, to provide greater color discrimination. However, the effective foot-candles would be about 15 per cent less with daylight lamps.

One of the prime requisites of good lighting practice is to be sure that the ratio of foot-candles directly on the work as compared with the general illumination throughout the area should be in the neighborhood of 1 to 5, or not more than 1 to 10. Consequently, the better types of lighting in seamless hosiery mills would call for about 15 additional foot-candles of general illumination to relieve the contrast between the high brightness of the work and the relatively darker surroundings. This is accomplished by the use of standard RLM industrial reflectors, each equipped with two 40-watt white, fluorescent lamps, mounted 12 to 14 feet from the floor, and spaced on approximately 12- to 14-foot centers. As nearly as possible, it is preferable that these units be placed between the rows of machines, provided the machines are not too widely separated.

Naturally, more than one solution is possible to the problem of lighting seamless hosiery machines, but from the standpoint of "quality of illumination", comfort and accuracy of seeing, and economy, the foregoing recommendations seem to be the most practical solution. In addition, these conditions are still further improved if the ceilings are fairly low and light in color, and if white hosiery is being manufactured, as this increases the apparent brightness of the surroundings and makes for still better visibility. If the manufacture of dark hose is being

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considered, then approximately twice as much illumination as outlined above would be necessary for an equal degree of seeing effectiveness. Also, the daylight fluorescent lamps would be more preferable to the white where colored hose is being made.

CONTRIBUTOR No. 7376

# System of Paying on Knitting

EDITOR COTTON:

This replies to the question of "CONTRIBUTOR No. 7343", on page 121 of the March issue of COTTON: "Regarding bad work (seconds, thirds and waste), would not an hourly pay rate plus a bonus be more efficient than the piece work system? What would be a sound and reasonable method of docking seamless hosiery workers for the bad work they pass?"

The subject of this question has been a matter of controversy among knitting mill managers and superintendents for a great many years; the discussion has been especially more pronounced since the wage-and-hour law has been in effect. I have discussed it with a number of knitting mill foremen and have found their opinions are divided, with the majority favoring the piece rate system.

The method we are employing in our plant and have found to be very efficient, both from a standpoint of operation economy and satisfactory reaction on the part of the employees, is a piece rate based on an average estimate which we compile by actual experimentation to arrive at the amount of work which the ordinary operator can produce under average conditions. I will explain the system we use to establish our basic rates, and then will explain our method of deduction for bad work which the operators pass.

When compiling the amount per dozen to be paid, much consideration is given to the type of machine involved, the construction of the fabric, and whether the work is to be made on a wrap type machine; the number of wrap ends is also allowed for. For example, assume that we are setting up a style with plaited construction on wrap type machines in which eight wrap verticals are to be evenly spaced. We know a construction of this kind is more difficult to run than one of a solid body. We also know that the number of imperfects from this work will exceed that of a similar pattern using the same number of wrap ends on a solid construction. We will assume that our basic rate for wrap stripe work begins at 25 cents per dozen and is established on a solid construction with two wraps. We allow a half cent for each additional wrap; therefore, this particular style would be rated at 28 cents in solid construction. However, due to the fact that this is to be a plaited hose, some allowance would also be made to offset the difference in care which the operator has to take when knitting the goods and which naturally will reduce the amount of work that he or she can produce. The latter variance can be estimated from previous styles of a similar nature.

You understand the figures I have used in my illustration are not necessarily what we are paying but are given for the purpose of demonstrating the manner in which we work out these rates.

Piece rates should be established high enough to enable the operator to earn more than the minimum rate per day which they must be paid under the existing laws. In doing so we provide an incentive for the operators to work more diligently, which is essential for progressive knitting.

With reference to the question on deductions for bad work, we allow a minimum of disfigurement without any deduction being made, this minimum being established by the classing of the hosiery when finished. For instance, if we can classify a hose with one or two slight misplaited spots as first quality in our finishing room, no deduction is made for this in knitting. However, these blemishes are always brought to the operator's attention to help keep up a good standard. If more than the specified number of disfigurements occur, this amount being established when the style is put into operation, the deductions are made accordingly.

CONTRIBUTOR No. 7373

# Eliminating Waste

**Concerns underwear manufacture, but the principles apply to all types of knitting mills. . . . . .**

EDITOR COTTON:

I have been in underwear mills where they had a ticket system. The knitter before starting the roll would have to go to a girl and get a ticket or an order to make the roll of cloth. The knitters kept this ticket on their machines, and anything that happened during the knitting of this roll was marked on it, such as holes caused by yarn or the machine. The same system is used on this ticket for any defect in the roll of cloth. It also had a space for the length of time that the machine was idle waiting for repairs by the fixer, a space for the date when this ticket was received, and space to fill in when the roll was finished.

In this way the office knew the time required to knit this roll of cloth. In other words, the office had a complete record of what took place in the knitting room while the roll of cloth was being manufactured.

When the roll left the knitting machines this ticket went with it, and the same system was used through every department that the roll went through, until it was finished and ready for shipment. When the roll went through the cutting room, one could see on this ticket the amount of dozens cut from this roll, and the amount of waste that was made during the cutting. This system was adopted by one company years ago, and it is still using it. This ticket system seems to make a big impression upon the help. I have never known of any poor results arising from these tickets, such as paying for bad work. But one would be surprised what a system like this amounts to, as to keeping the help in all departments careful.

When trouble occurs in a knitting room we generally find it in the winding department, and I might

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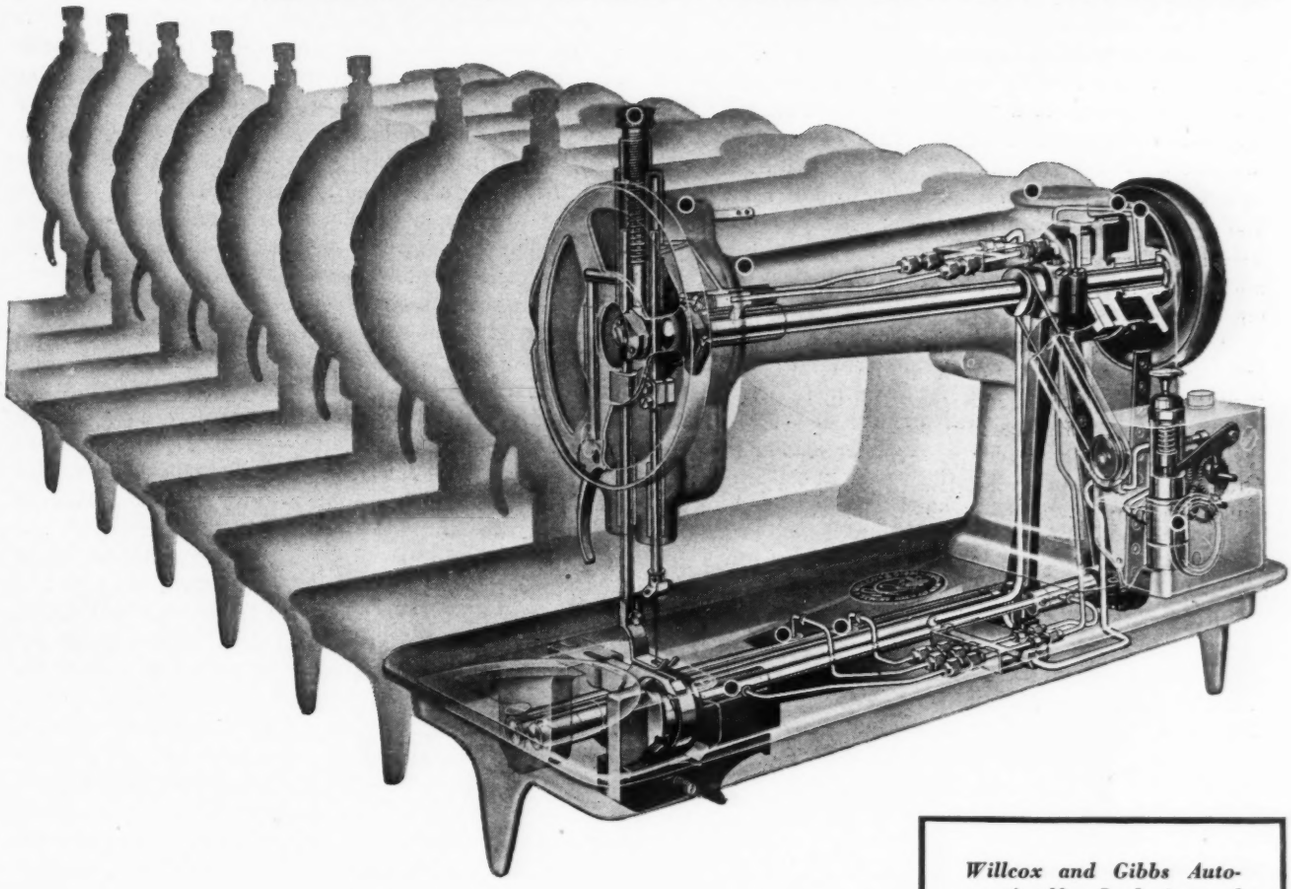

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*A machine is only as good as its component parts*

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make a few comments on this room. The winding department like all others should be kept clean. The man in charge should see that the machines are in good running condition, making a perfect bobbin of yarn. This will help the knitters in the knitting department to overcome waste, such as pull-ups, caused from soft and incorrectly wound bobbins. The supervisor should have a gauge to set his strippers by and a standard size for each grade of yarn which he is winding; care should be taken to see that these strippers are set each time the yarn is changed. He should see that the winders are not making too much waste, which can be done by weighing each girl's waste separately at certain times during each week. This will help to keep the waste down providing there is a standard amount each girl is limited to in a certain period of time. Each girl should have a number and should place a ticket with her number on it in all of her work thereby giving the foreman a chance to check the help who is doing the bad work.

The knitting department should be run under the same system as the winding department, as far as cleanliness and the waste is concerned. A knitter should be allowed a certain amount of needles each day, whether they are latch, trick, or leaded needles. This will help to overcome the waste of needles. How many times have we seen a knitter take a good needle that he thought there was something wrong with and throw it on the floor, and then take another! What did he care? We wasn't paying for them. There was no record kept of the number of needles that he used, and the company had plenty of money, why worry? A good knitter that is using latch needles can fix up many of them and place them back into the machine. Many times latch needles are thrown away with only a slight bent latch that could have been straightened and used again. Needles for all smashes should be drawn by the fixer, and should be set down against him.

When I was a boy, and first started to knit on production work, we were allowed 30 needles each day, 15 dial and 15 cylinder needles, and any over this amount each day, we had to pay for at the rate of one cent each. We always had plenty of needles in our pockets, as we were very careful of them. This did not include smashes as the needles for smashes were furnished by the fixer. We also were charged five cents per pound for all bad work that was found in our rolls. This was sorted out in the cutting room and was charged to each knitter; we were allowed ten pounds per day and anything over this we had to pay for. The company paid good wages, this plan being only to keep us careful. The knitters received more pay under these rules than was paid by any of the other textile mills.

The knitting machines should be kept well oiled, and the oil should be put in the right place, not on the bed of the machine or on the floor. Knitters should be careful about throwing, sliding or having empty bobbins where they will get bruised or marred in any way as this sometimes will cause serious troubles in the knitting department. The wooden bobbins should be kept smooth, well covered and the necks should be shellacked to a smooth surface.

In the cutting room caution should be taken of too much waste. The cutters should lay up their cloth as closely as possible, and the small pieces should be worked into gussets and all small parts of the garment. The waste from each cutter should be weighed under the same system as the winding and knitting departments.

Waste can be cut down in the sewing room by the sewing machine fixers keeping their edging knives adjusted so that they will take a certain width in the trimming of the seam. Sometimes the girls in the sewing room are compelled to take a wide trimming because the cutting room does not follow the patterns closely. Other waste in the sewing room is buttons scattered over the floor. Every finish-room should have a supply room, and everything that the girls use in their operations should be recorded to each girl. I don't mean that a girl should pay for these things, but that all of these things should be kept track of, and set down against the girl. How many times have we seen a sewing room where a girl was allowed to go to a case of thread and take what she needed. She would pick up one cone, perhaps silk, or mercerized, maul it over and then decide that she did not like it but wanted another. I have known some of them to do this two or three times before deciding on the cone of thread that suited her. By the time this was done by a few girls, the case of yarn was an awful looking mess, and none of the other girls would use this maulled yarn and we could not blame them. The consequences were that by the time the case of yarn was used to the last end, there was a lot of stripping and a lot of cones to be repaired, and worst of all, a lot of waste was made by a lot of foolishness.

This does not only apply to the sewing thread, but it applies to any of the supplies that are used in the sewing room. A supply room for any department of a textile mill is a money saver, if properly handled. I have seen textile mills that I would rather have the profits that were wasted than their net profits.

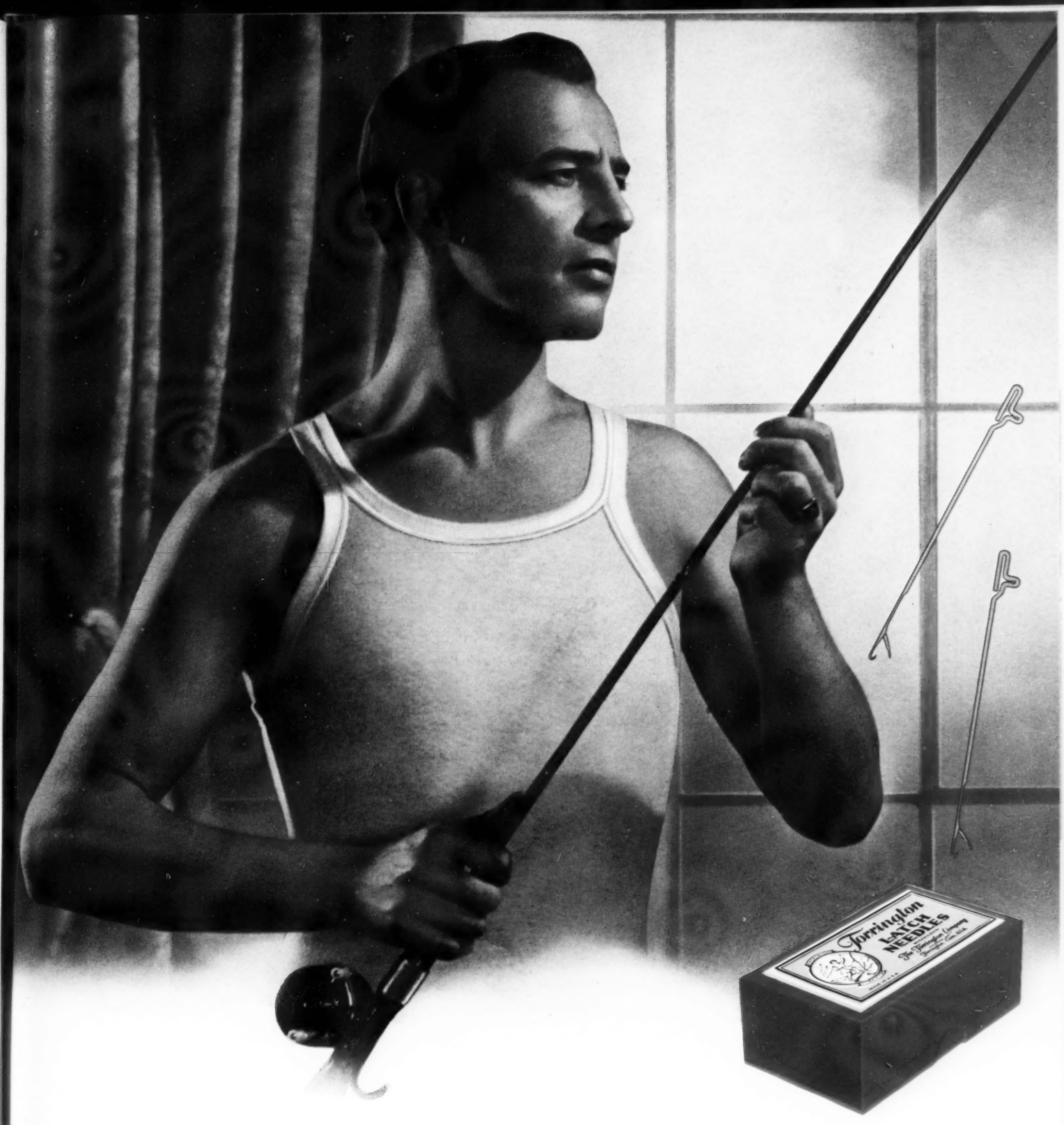
There should be a supply room in every department which would carry all supplies, and there should be a man in charge of this room. Before any of the help in any department could receive supplies they should have an order from their foreman. If this department is properly handled it is a money maker for any textile mill, large or small.

We have many problems in textile mills that sometimes seem impossible to overcome, but if placed in competent hands, they are money savers.

CONTRIBUTOR No. 7178

### Rather Than Defending Them

An unreported mistake weighs on a man's mind and prevents him from carrying out his duties efficiently. It's really so much easier to admit your mistakes frankly, "wipe the slate clean," and make a fresh start. There is much to be learned from our mistakes. We can't profit much from them, however, if we refuse to acknowledge them. Some men find it difficult to admit a mistake even to themselves. There are those with a sense of false pride who refuse to recognize their own mistakes when they make them. Some men seem to feel that the admission of a mistake is also an admission of ignorance or incompetence. Yet, the one thing worse than making a mistake is refusing to admit it.—*Management Information, Elliott Service Co., Inc.*




Fine appearance makes sales in underwear; good service makes re-sales. And the essence of both appearance and service is good knitting. Here is where Torrington Needles, with their superior *machine-made* finish, temper, strength and all-around uniformity, prove of great practical value. They contribute a smoothness and efficiency to knitting machine operation which adds unquestionably to the value of the fabric. This is why so many conscientious knitting mills favor Torrington Needles—their machine-maintained quality has proved to be a sturdy stepping-stone to profits.

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# TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

## Hosiery Shipments Gain Notwithstanding Drop in Full-Fashioned —Gains in Rayon Numbers Impressive in Quantity and Quality—Stops Manufacture of Full-Fashioned Knitting Machines—Smaller Knitters Hit by Shortages—Post-War Hose Machines to Be 45 and Finer Gauge—Last Wage Advance Squeezes Hose Mills

**Philadelphia, July 16, 1942.**

THE FULL-FASHIONED end of the hosiery business is showing marked effects of curtailment in raw material and labor but the seamless section is making good progress and in many branches shipments are larger than a year ago with the opposite true in full-fashioned. Manufacturers are feeling the effects of high wage and tax rates, coming in the face of ceiling prices for their own merchandise and in addition most assert that large profits are not wanted on military orders. This all boils down to the fact that most knitters are going to have small profits even though some will be very active on war orders. They are also concerned with the most active branches being unable to get all the help wanted as more and more in the hosiery industry are leaving to take war jobs. This point was emphasized at the June meeting of the hosiery union when it was decided to form a labor exchange to send excess help from one section to a place where it was scarce. Underwear manufacturers are very active with the percentage of military goods due to rise further. This is causing civilian buyers to try to place next spring business but they find mills reluctant to operate as yet that far ahead.

### Full-Fashioned

In May, the last month for which complete data are available, shipments of rayon and cotton constructions were approximately 65 per cent of the total shipments of women's full-fashioned goods. But government officials have recently asserted this may be expected to spurt further so that one speaker at the recent annual sessions of the American Federation of Hosiery Workers, in Philadelphia, declared that within a few more months the percentage of rayon will mount to 90 per cent. As production and shipments of such numbers expand there has been an improvement in quality of both rayon yarn and goods so that the consumer is accepting such hose more readily than late in 1941 and the first few weeks of the present year. During the first five months of 1942 while total shipments of all kinds of hose were gaining more than 6 per cent those in women's full-fashioned were dropping more than 17 per cent. During this period shipments of rayon constructions totaled about 5,500,000 dozen pairs. Fall lines of leading manufacturers include few new styles but rayon and cotton numbers make up the list with nylons and silks completely out of the picture. So far as viscose and cuprammonium yarns are concerned manufacturers have overcome most of their difficulties and stockings are being turned out that have excellent appearance as well as good wearing qualities. Sheer rayons in particular have been improved since they made their first appearance on the market but the mills express doubt that such lines will continue in volume long. It is felt they may go into the luxury class as the government takes over more of the type yarns that are used in the making of such numbers. There is considerable development work among the mills on acetate full-fashioned but such numbers are not apt to make their appearance felt in retail channels until the spring season of next year. Pre-sizing as well as pre-boarding are regarded as essential in turning out good acetate stockings. Knitters feel that more poundage of such yarns could be had if the hose work out.

### Half-Hose

Shipments of half-hose and slacks during the first five months of this year registered a gain of more than 14 per cent compared with the same period a year previous. Slack socks have made outstanding gains this year although data for May alone show that for the first time a decline in this branch of the industry was reported. It is possible this was due in part to the elastic yarn restrictions. The largest shipment decline in the first five months was in silk while other types showed gains of about 10 per cent compared with a year previous. Another division of the industry that reported a wide gain in first five-month shipments was athletic socks with a gain of more than 36 per cent. Instead of offering complete lines of half-hose for fall many firms in the wholesale field have been making piecemeal presentations and many have only in the last few days had a selection ready for buyers. The delay in this respect was about two months and due in part to uncertainties created by the war in yarns and other lines. Branded lines that must fit into a special price brackett are particularly difficult to find and fancies in rayons will also be scarcer at 35- and 50-cent retail limits. On the other hand, there will be a larger supply this year of coarse lisles at 65 and 75 cents in seamless and $1.00 in full-fashioned constructions. Due to the wool conservation order of the War Production Board there will be fewer wool half-hose styles on the market and combinations with other fibers will be freely offered, rayon and cotton being used as substitute fibers to stretch the wool supply.

### Seamless

Production of seamless rayon numbers expanded until recently at a slower rate than has the percentage of rayon full-fashioned women's numbers. This was 41 per cent of rayon seamless in August, 1941, while in April, 1942, this percentage had increased to only 57 per cent. During the first five months of this year shipments of all types of seamless women's lines were about 8 per cent ahead of the same period a year previous with a large decline in silk over the period and gains in substitute fibers. Anklet shipments for the five months were 21 per cent ahead and bundle goods about 18 per cent. In May of this year shipments of women's rayon seamless had spurted almost 100 per cent compared with the same month last year indicating this is now becoming the main standby of this branch of the business as well as in the full-fashioned.

## Underwear

There has been a lull of several weeks in new business in underwear but the mills continue very active on old orders on their books. Most in the trade expect large military orders to come into the picture in the near future, for staple lines as it already has done so in special types such as protective undergarments. In the latter substantial July orders have already come through. The less active demand from the civilian trade has been responsible for slightly freer offerings from some mills but on the whole larger mills are so busy on old orders this has not been apparent among them. Manufacturers and selling offices have begun to receive inquiries for next spring as such buyers are endeavoring to cover before larger military orders come into the picture and make civilian orders impossible. Manufacturers are reluctant to operate in spring goods this early in many instances as some are still making late deliveries on the same type goods for this year, the delays being due to various holdups in yarns or for other reasons. Mills have been developing new constructions in underwear to offset the freezing of elastic yarns, this being especially noticeable in knit shorts. Only a few mills have indicated their willingness to accept heavyweight business in view of the large amounts of such merchandise that are wanted by the military and the possibility further quantities of the same are likely to come through in the next few weeks.

## Price Order Cuts Rayon Yarn Costs

Price Administrator Leon Henderson issued a regulation late in June placing formal ceilings over rayon yarns and staple fiber and at the same time rolled back prices which converters of rayon yarn may charge. They were rolled back to levels substantially lower than prevailed in March and it was stated this was necessary to prevent increases in the cost of rayon products, particularly hosiery, to the consumer. Maximum Price Regulation No. 167 issued June 21, established maximum prices for rayon yarn producers at the same level they have observed for their products since October 1941. Maximum Price Regulation No. 168 applies to commission converters and sellers of converted yarns. By converting it meant the changing of the original form of the yarn by operation such as twisting, warping, dyeing and spooling, in order to prepare it for the knitting and weaving industry.

OPA pointed out that, "Any unwarranted increase in converting charges will result directly in an increase in the cost of women's full-fashioned hosiery to the consumer. Even apart from this it has come to the attention of the Office of Price Administration that some converters are making unreasonable charges for the sale of such yarns. They are selling converted yarns as a subterfuge for exacting excessive profits in the sale of rayon yarns which they have converted." As an example of the effect of this regulation it established a ceiling for a converted 75-denier yarn used in the manufacture of women's full-fashioned hosiery at $1.27½ per pound. Reports were received by the Office of Price Administration that deliveries of this type of converted yarn were made in March as high as $2.00 a pound. Rayon yarn has become the chief substitute for raw silk and nylon in the manufacture of women's full-fashioned hosiery and the War Production Board has allocated about 44,000,000 pounds of rayon yarn for hosiery manufacturers this year.

## FORECAST

(Opinion submitted by COTTON's market correspondent)

**Philadelphia, July 16, 1942.**

THE MORE cautious attitude of business in general during June has continued so far this month and indications are that speculative buying will not be seen again shortly. But the textile industry has in some quarters come to the belief that there will not be heavy new orders in the near future and chances are this will be proved false in the near future. Very large military contracts for textiles were placed early this year and since then manufacturers have been busy turning out this business on which they will be engaged for months. With continuous increases in the size of our armed forces and their dispersal to all quarters of the globe demands cannot be other than large even though such amounts have already been contracted for.

But with ceilings on their goods both for civilian and military use, with predictions that inventory control is shortly to be placed in effect in some manner and with manufacturers and others confronted with heavy taxes there is not much room for large profits nor for gains in inventories to mean much. Even if the Office of Price Administration ceilings are broken through by additional wage and commodity increases the gains in stocks would be offset by excess profit taxation. It does not promote a speculative attitude and the outlook is for business including textiles, to move more cautiously in the future in their buying policies. This is particularly true with the government ready to take larger percentages of the output.

While the War Labor Board seems to be in the frame of mind to grant steel workers a new wage increase, the textile industry does not look for any new general upward revision to come. There are expectations that what the Washington administration considers underpaid groups may get small increases, but, for example, in the hosiery field it is guessed that after the recent cost of living wage boosts there will not be new demands unless commodities and other items go higher and force new gains in the cost of living. The administration refuses to freeze wages generally, feeling that there are still some groups that are under the general pay level notwithstanding the wage-and-hour act. Indications are it will continue to refuse to freeze wages and while this is so some unions will press wage demands which will bother managements even if no general increases are to come. They feel wages should be stabilized for the duration.

So far as the civilian demand for textiles is concerned the coming weeks may see a smaller volume because so many have bought ahead to beat expected declines in quality but after a reasonable period these stocks of textiles must be expended so that the lull cannot last more than a few months more. In the meantime, retail volume is not so much higher than a year ago as it was earlier this year and stocks held by these outlets, while still large in many sections, are tending to be worked down in view of inventory control talk. The entire picture is for the present new business lull to continue for possibly a couple of months more or until early fall. Large Army new orders may come before that to speed up this change.

## Last Pay Rise Squeezes Mills

American Federation of Hosiery Workers has been successful in three different negotiations in obtaining "cost-of-living" wage increases, the most recent of which was the award of a 5.08 per cent wage increase to commercial hosiery finishing plants in tthe Philadelphia-New York area retroactive to June 15. This followed the recent rise of 6.8 per cent to union full-fashioned hosiery workers on a piece rate basis retroactive to May 18. A wage increase was also granted to employes of hosiery mills in the Reading area. Manufacturers now declare that these wage increases come at just the time when producers are facing determined retail buyer resistance to rayon hosiery selling prices above $7.25 a dozen. Already a number of mills quoting above this price which corresponds to $1.00 a pair retail, have been forced to revise their lists de-

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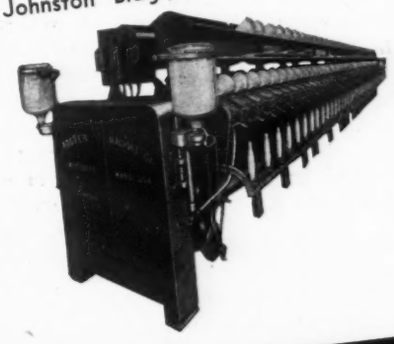

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spite the higher operating costs brought about by declining production.

The average manufacturer may have to live partly on last year's profits unless some relief is afforded by the Office of Price Administration this fall which brings to mind the prediction of George F. Lang, who represented the Full-Fashioned Hosiery Manufacturers of America when the wage demand was arbitrated. He said that hosiery manufacturers would not be able to stand this wage rise, saying that he felt the action would prove to be a serious mistake and that this is not the time to add to the employers' manifold burdens of management. He predicted that within the next few months conditions generally in the hosiery industry would be such that manufacturers would not be able to operate profitably and that this cost of living wage increase would prove to be an impossible and difficult burden to bear. The only cheering aspect of the situation was an OPA statement that the upward trend in living costs had been checked for the first time since November 1940, this OPA statement being dated June 21.

## "Textile" Making Only War Goods

Textile Machine Works, Reading, Pa., after an unbroken record of the manufacture of knitting machines for 40 years, recently built and shipped its last full-fashioned hosiery machine until the end of the war. The company made its first machine, a 12-section 20-gauge machine, in 1902 and the piece shipped recently was 30-section 51-gauge and was No. 13,430 on the company's books. It will continue to service during the war the machines it has made and which are now in use in 28 states and various foreign countries but it will devote all its new production to war materials. Textile Machine Works is the largest maker of full-fashioned hosiery machines in this country and is now doing war work for the Navy. Previously Scott & Williams, Inc., Laconia, N. H., the largest producer of circular knitting equipment, ceased work on these machines to concentrate on war work.

## Retail Hose Sales Turned Downward

Due to the uncertain quality of some of the early rayon full-fashioned hosiery, together with the trend toward cotton anklets and the more recent tendency of the consumer to substitute leg make-ups for stockings, June volume in retail hosiery departments in several large distributing centers is estimated to have fallen below the corresponding month of 1941. This is the first time this has been true this year. Only in industrial centers where war work constitutes the major source of income did June sales exceed those of the same month a year ago. A decline was not unexpected owing to the high level at which retail hosiery sales have been maintained almost continuously since the silk embargo of last August. It is not felt in the trade that scarcity of silk and nylon goods is contributing to this decline in retail sales inasmuch as these goods are still available at most stores in combination with rayon or cotton. Recent data indicate that stocks of women's and children's hosiery are still high. When August figures are compiled it is doubtful even in the districts where war plants have caused a boom, will the hosiery figures beat those of 1941.

## Stockingless Fad Creates New Problems

The great increase in the number of women who are not wearing stockings is creating important problems for the hosiery industry to overcome. Accurate data have not been prepared as yet as to how many women are not wearing stockings this summer but that this is considerable is realized from a survey in any important consuming area. In rural areas particularly, a large number of women have gone without stockings this summer but now the fad is spreading to women in the cities including those in offices and stores. While many business organizations in the past have frowned upon their employes coming to work without stockings their attitude in most instances has changed under war conditions so that this summer there are girls in retail stores doing without stockings, to say nothing of the large number in various offices.

Questions asked of many consumers who have abandoned wearing stockings during business hours reveal a number of things of interest to the industry. One of these is that such consumers object to paying prices asked by retailers for stockings, particularly some of the cotton and rayon types. They also say in some cases that rayon stockings are too warm for summer and that many of them fit poorly not only in the ankle but in the foot. It is only fair to point out in this connection several consumers were judging rayon stockings on the standards of the early numbers rather than on those of later and better-made types. Others said they had never tried rayon stockings and felt that they were only war substitutes, adding that if they had been satisfactory they would have made their appearance before this. Then there is the economy angle. This will result in material savings and particularly at the time that complaints are being received as to poor wearing hosiery.

## Hosiery Rayon Allocation Raised

War Production Board early in July decided to grant hosiery mills their full allocation of rayon yarn even though they scrap some of their machinery. Under the rayon allocation order as originally issued a mill was required to notify WPB if it scrapped any of its knitting machines, looms or other fabricating machines so WPB could reconsider the quantity of rayon to be allocated such a mill. In the past it has been the practice to reduce the rayon allocated to a mill which scrapped any of its machinery.

This resulted in some mills keeping idle equipment in their mills rather than scrap any of it in order not to have their rayon allocation cut. This idle machinery represented metal which if scrapped could be used in the war program. For this reason WPB decided to grant full allocation of rayon to mills even though they scrapped some of their obsolete machinery, if no serious labor displacement is involved.

## Sees Coming Hose Output About 60 Per Cent of Pre-War Basis

American Federation of Hosiery Workers in an annual report submitted to its thirty-first annual convention held in Philadelphia late in June estimated that the full-fashioned hosiery industry faces a level of 60 to 65 per cent of its pre-war production. It stated this does not necessarily mean a curtailed work-week for each employee but rather full-time operation for a portion of the total machines, either on a partial two-shift or on a single-shift basis. It was added that machine junking may actually leave few idle machines in the industry. Discussing the rayon situation, the report noted that rayon producers have been active in changing the spindle capacity of their mills to finer denier and that the recent release of high-tenacity acetate yarn to hosiery mills taps a new source of yarn supply for full-fashioned machines.

It stated that widespread experimentation by rayon producers, hosiery manufacturers and silk throwsters had resulted in highly improved twists, yarn lubrication, sizing, quality and durability which have cut down many of the problems of the knitter and will result in a wearable fabric. Machine conversions now under way, the report said, indicate a larger increase in the number of non-run and mesh constructions for rayon and it is likely this

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trend will increase. "The future supply of rayon, however, is not a fixed or certain matter and increasing war demands upon the rayon producing industry can cut down considerably that portion allocated to civilian supply." It anticipates a further drop in total employment and noted that the decline in employment in the full-fashioned hosiery industry since 1941 is 17 per cent compared with a 22.4 per cent decline in production for the same period.

## Shireman Sees Permanent Rayon Hosiery Market

John Shireman, chief of the knit goods section of War Production Board predicted that by August 1, one year from the date of silk freezing, production of women's rayon full-fashioned stockings would represent more than 90 per cent of the total with the balance being cotton. This would compare with August 1941 when the production of such lines represented less than 2 per cent of the total. Addressing the American Federation of Hosiery Workers' convention, he impressed upon the industry the importance of making good quality rayon stockings, asserting this would go a long way toward creating a permanent market which he considered very probable after the war is over. By this, he said, we can avoid causing consumers switching to anklets.

Production of women's seamless rayon hosiery in proportion to the total has expanded at a slightly slower rate than in the full-fashioned end. He gave some promise that manufacturers would be able to obtain somewhat larger quantities of fine cotton yarn from abroad, saying this subject is being given consideration again and that changes in labor conditions in England make it seem more promising than ever before. He continued that it is safe to predict the hosiery industry will run about 60 per cent and supply the consumer with between 25,000,000 and 30,000,000 dozen pairs instead of the former 42,000,000 dozen pairs.

## Hosiery Finishers Get Wage Boost

Employees in commercial hosiery finishers plants that are members of the Hosiery Guild Conference have been granted a wage increase of 5.08 per cent, effective June 15. The wage increase developed from a demand of the American Federation of Hosiery Workers and affects 2,300 workers in 15 plants in the Philadelphia and New York districts. In addition workers in 11 more plants of the same type that have individual contracts with the union were also affected by the rise. The union had asked for a 7 per cent increase but this was not allowed in full because it was "doubtful that the industry could stand it at the present time."

## Knit Goods Union to Ask 15 Per Cent Wage Rise

A demand for a 15 per cent wage increase to meet the higher cost of living has been made by Knit Goods Workers' Union, Local No. 155, which is affiliated with International Ladies Garment Union. It was pointed out that since 1934 there had been no increase in the basic wage scale for the knit goods workers. The union also pointed out that as a result of the Wage and Hour Law, out-of-town competition has been limited. The present contract has been in force since July 15, 1940, and in the knitted outerwear field, the minimum pay is 40 cents per hour.

## Curtailments Hit Small Hose Mills

Small full-fashioned hosiery mills in New Jersey and northern Pennsylvania have been hit by various shortages in recent months, according to a report of the hosiery union. This survey covered fifty shops, showing that of a total of 484 machines in place in April 1942, 329 were in operation and 31.8 per cent were idle whereas a year previous of a total of 612 machines in place, 541 were operating and 11.6 per cent were idle. It was revealed that the number of machines junked by these plants in this period totalled 153. Sixteen new machines were installed while the used machines installed totalled 55.

## Post-War Trend to Finer Gauges

After the war, the bulk of hosiery production will be on 45-gauge and finer equipment according to William E. Simkin, impartial chairman for the unionized section of the full-fashioned hosiery industry. He predicted that some 42-gauge equipment will continue to operate on service weight styles after the war and declared that the trend toward 30 and 32-section machines had been stopped at least temporarily by the complete stoppage of new machine manufacture. Speaking before the hosiery union convention, he said one thing can be reasonably sure, that when the war is over 18- and 20-section machines operating on a single machine basis will be almost extinct. Commenting on the number of sections in a full-fashioned machine, he said it is too early to know whether the difficulties in 30 and 32-section machines will be overcome or whether such equipment may be approaching the point of diminishing return.

## Mills Experiment in Acetate Use

There has been further expansion in interest displayed by full-fashioned hosiery mills in the use of acetate yarn and it is said that practically every full-fashioned mill whether offering branded or unbranded lines is experimenting with the use of acetate yarn. Due to the nature of acetate yarn considerable development work has been necessary in all phases including preparation of the yarn previous to knitting as well as in dyeing and finishing. One advantage of acetate hosiery claimed in addition to its appearance and elasticity is the quick-drying quality of this type of hosiery.

## Fall Hosiery Lines Opened by Mills

Fall lines of leading full-fashioned hosiery manufacturers include few new styles with staple rayon and cotton numbers making up the offerings, silks and nylons having disappeared from the market. Improved finish and better wearing qualities mark the rayon offerings. So far as the viscose and cuprammonium yarns are concerned, hosiery manufacturers have overcome many of their problems with the sheer rayons in particular being improved considerably since they made their first appearance. Present experimental work being carried on by full-fashioned hosiery manufacturers especially in regard to the use of acetate is expected to result in the introduction of many new numbers for the coming spring season or several of these may come out in time for the holiday trade. Hosiery manufacturers feel that the marketing of acetate numbers under brand names should be delayed until these goods have been adequately tested for wearing qualities. The top price for 45-gauge, 75-denier rayon is likely to remain around $7.25 a dozen and the 51-gauge, 65 and 50-denier are not expected to exceed $8.25 a dozen.

### Double Trouble

Edward Everett Hale said, "Never attempt to bear more than one kind of trouble at once. Some people bear three kinds—all they have had, all they have now, and all they expect to have." There is no profit in borrowing worries from yesterday or tomorrow. The problems of today certainly provide an ample outlet for your energies. Don't waste your precious "fire-power" on yesterday's targets, nor dull your present aim by glooming forebodings of tomorrow. Today's problems are the only ones you can really do anything about. Concentrate all your energy on them. — *Management Information, Elliott Service Co., Inc.*

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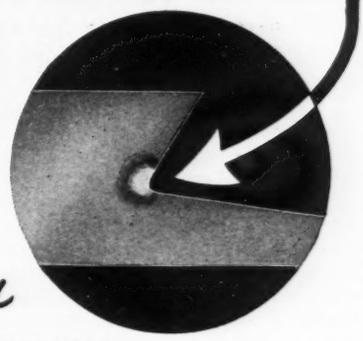

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# TRENDS—YARN MARKETS

## Lull in New Military Business and Uncertainties in Civilian Lines Slow Cotton Yarn Sales—June Least Active Month This Year —Rayon Yarn Sales and Shipments Maintained at Record Levels with More Slated for War Uses—Outerwear Knitters Hit by Yarn Shortage

**Philadelphia, July 16, 1942.**

JUNE was the least active month this year for new cotton yarn business and trading during the present month to date has displayed little improvement although there are reports in the market now that large new Army orders for textiles are in the offing. Civilian buyers are upset by maximum price regulations and inventory control so they are on the sidelines but new volume is anticipated by early fall. This slowing is not apparent in rayon yarns which in June hit new records for shipments and for depletion of sellers' stocks. This fiber is bearing most of the brunt of the absence of silk and nylon from the knit goods fields. There is general belief in rayon circles that military needs will mount rapidly from now on for the finer denier yarns so that the hosiery industry is likely to feel the effects of this following stoppages recently in silk and nylon and adding to knit goods manufacturers' troubles. Worsted yarns are tight due to wool restrictions and outerwear manufacturers are not able to buy enough to permit them to run their plants actively.

### Cotton Yarns

After almost five months of active buying of cotton yarns, a noticeable change occurred the middle of May and which has continued up to the present time, with general dullness now prevailing. Inactivity has continued for so many weeks that over the last month prices have weakened and in some counts reductions have averaged as much as two or three cents a pound with the greater cuts being made in the coarser sizes while finer numbers as a rule have maintained their ceiling price level. Buying interest has been quiet this month from both the military and civilian buyers. A resumption of interest by the former is expected in the next few weeks in view of continuous expansion of the armed forces. But the outlook is not immediately that favorable for the civilian end of the business where the situation is clouded by the trade seeking to adjust its affairs to conform to the maximum price act and also to the wishes of the administration that inventories be held in check with the possibility that where these have become excessive cuts may have to be made.

This lack of buying interest coming at the same time that easiness has occurred in the raw market has brought about a belief in the trade that the Office of Price Administration is about to bring out a new order which will reduce the present ceiling prices of carded yarns. Anticipation of this development has been an important factor in bringing about lower than ceiling offerings in recent weeks. Another factor that tended to bring about lower prices was the offering of large amounts of coarse count ply yarn made by tire fabric firms whose normal outlets are on other lines of work so that new outlets had to be sought by these spinners. Considerable poundage of coarse count yarns was sold during the first quarter of this year to be used in the manufacture of cotton ducks for both the armed forces and civilian use but this trade has not been in the market again for additional large quantities, resulting in a widespread reaching for orders by such spinners. In some instances coarse counts such as 8s have been offered three cents under the ceiling with no great amount of buying interest created by such an offer.

Dullness in the civilian end is partly attributed to dislocations brought about by the maximum price regulations. As an example, towel mills in this vicinity have asserted that it is impossible for them to operate under this act because their March prices were based on towels made from sales cotton yarn bought months previous at much lower prices. This situation was corrected by the OPA through Amendment No. 5 which made certain exceptions for towel firms that buy sales yarn so that recently there has been more cotton yarn business from these mills but there are instances where trades are still deadlocked by what they claim to be ceiling prices that are too low.

Combed yarns are an exception to this dull condition because such a large percentage of these qualities is going to the armed forces, making deliveries tight even though new business has not been quite as active during recent weeks. A recent government order caused combed spinners to set aside 65 per cent of their coarse counts and 40 per cent of their medium counts for Government use and there are reports now these percentages will be further increased with the coarse count allotment probably to run up to 85 per cent. This allotment order has caused serious handicaps for many consumers of combed yarns, including both mercerizers and knitters and various attempts have been made to overcome them. One has been for mercerizers to buy much larger quantities of carded yarn for mercerization on which there are no military allocations. This means that numerous knitted articles such as anklets, half-hose and some underwear formerly made from combed yarns will this year be made from carded.

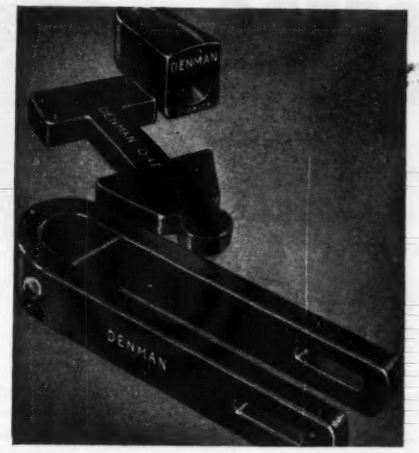
### Rayon Yarns

Deliveries of rayon filament yarn to domestic consumers during the first six months of this year amounted to 231,400,000 pounds as compared with shipments of 219,200,000 pounds reported for the corresponding period in 1941. Shipments for the half year represented a gain of 6 per cent and the total represented a new high mark for such a period. For June alone, shipments totalled 39,000,000 pounds as compared with 37,600,000 pounds delivered in May or 38,300,000 pounds shipped in June 1941. Another feature of the first six months was the increase in the amount of rayon staple fiber shipped, this totalling 75,600,000 pounds or an increase of 18 per cent compared with the same months a year previous. Stocks of rayon filament yarn in the hands of producers amounted to 5,800,000 pounds at the end of June as compared with 6,900,000 pounds at the end of May.

While rayon producers opened their books for August business with no further cuts in quotas for civilian goods they made it clear that this did not mean by the time the month of August was actually reached they would not be forced to scale down such contracts. In fact, hosiery manufacturers are being prepared for such a development in the coming months as it is believed that military procurement offices will be in the market for larger quantities of high break rayon yarns to be used in the making of parachute or balloon cloth which will make the allotment for civilian use tend to drop. Prices which converters of rayon yarns may charge under the General Maximum Price Regulation were rolled back by the Office of Price Administration to levels substantially lower than prevailed in March. As an example of the effect of this regulation, a ceiling for a converted 75-denier yarn resulted at $1.27½ per pound.

### Worsted Yarns

The wool-growing trade has been disturbed by the mounting imports of Australian wools which are coming in duty free. This has resulted in easiness in wool and the top markets but has not been reflected in any great degree in the worsted yarns as used by the knitting trades because spinners of such yarns have a very small wool allotment for the balance of the year. This has forced them into the use of substitute fibers such as wool waste, cotton, mohair and rayon but even so knitting yarn spinners have not brought their production up to a very high level. It has meant that outerwear knitters although not active themselves, have been unable to buy nearly all the yarns that they have needed, this situation offsetting easiness in the raw market. Outerwear manufacturers are proceeding cautiously and not operating too far ahead and several of them have been receiving substantial cancellations on recent goods orders placed with large chain groups that are preparing for inventory-control regulations.

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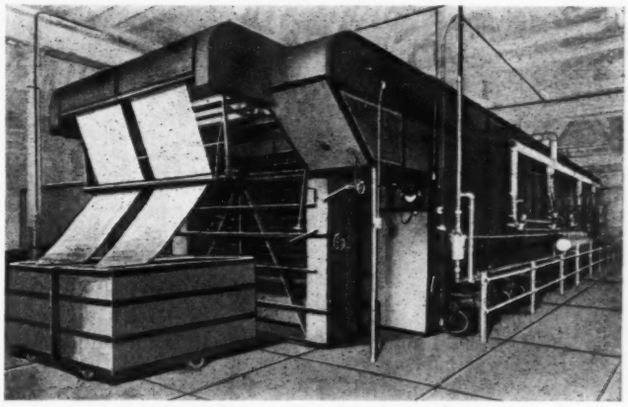

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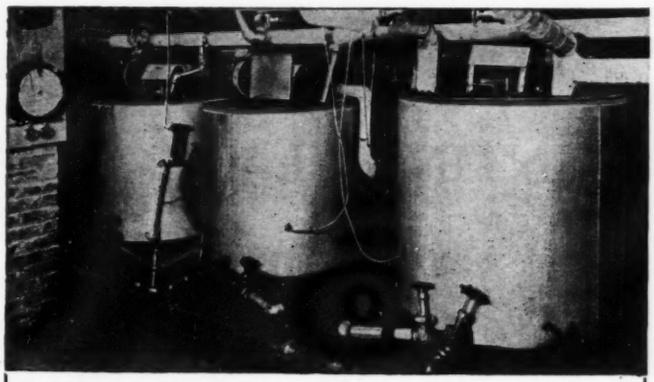

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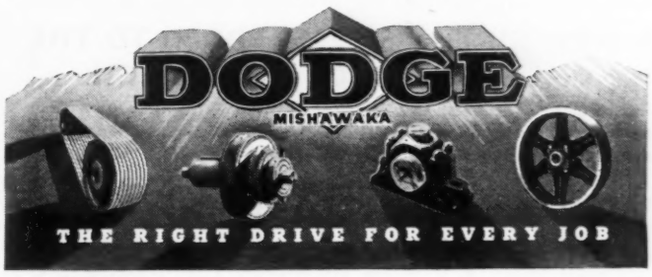

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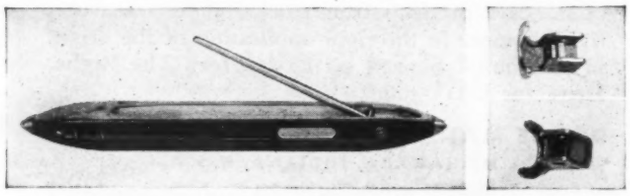

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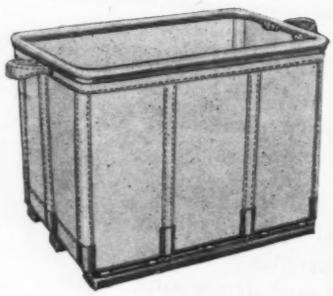

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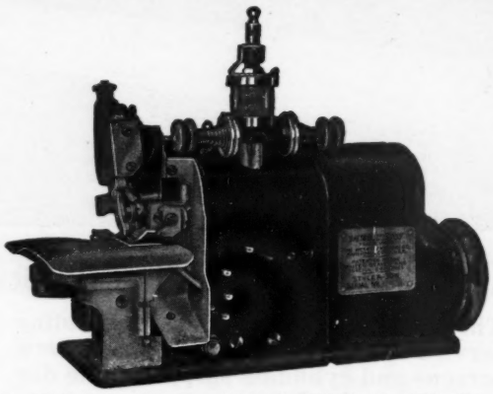

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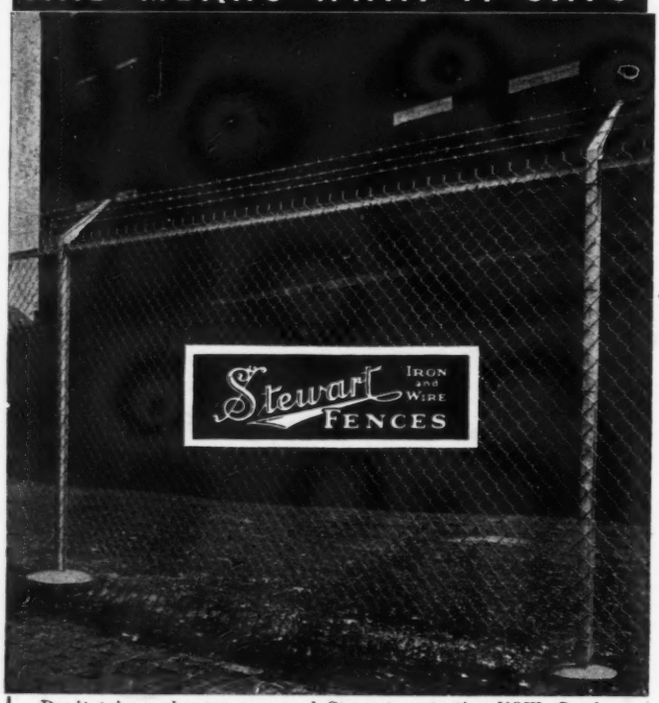


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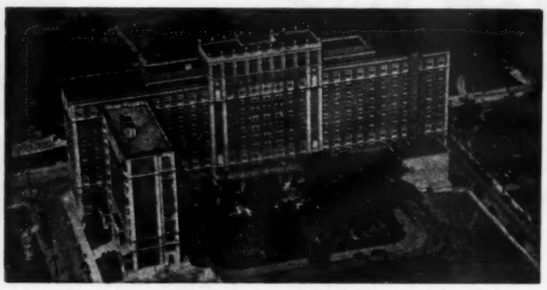

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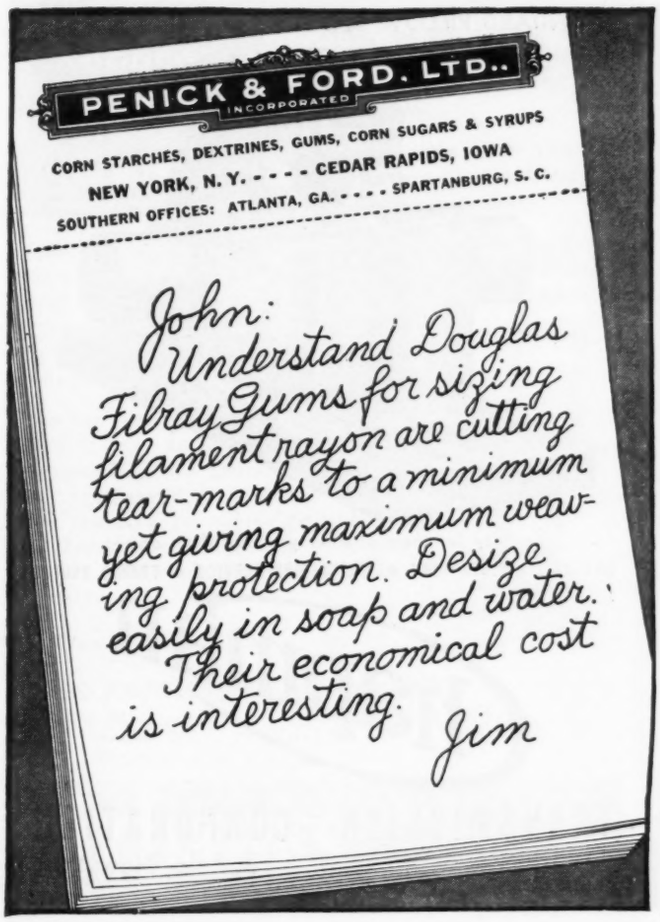
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SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.
John:
Understand Douglas Fibray Gums for sizing filament rayon are cutting tear-marks to a minimum yet giving maximum weaving protection. Desize easily in soap and water. Their economical cost is interesting.
Jim

**Selig's**
**Floor Maintenance Materials and Methods**

Are creating real economies in many mills.

Request our trained representative to make a survey of your plant.

Recommendations will be made without obligation. Write

THE SELIG CO.
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US

**UNBEATABLE PRODUCTS of an UNBEATABLE NATION**

**SINCE 1857** we've seen America win three major wars — and are proud to have had a part . . as now . . in bringing Victory. U S Bobbins, Shuttles, Cones and Spools have always excelled in quality materials and skilled workmanship. Their use assures utmost speed and uninterrupted production.

*Ask us to show you samples.*

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US BOBBIN & SHUTTLE CO

GREENVILLE, S. C.
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ALABAMA AGENT: Young & Vann Supply Co.
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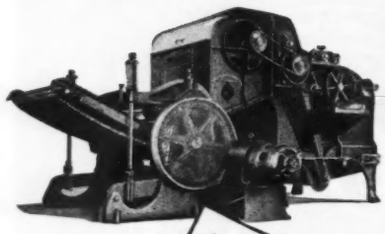
# PROCTOR

## CONTINUOUS EXTRACTING UNIT



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- Wool or cotton stock, shoddy, mixtures, bleached cotton, cotton linters, rayon staple, etc., are all being successfully extracted and prepared for drying by this outfit.
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- There are considerably lower power and labor requirements . . . production is constant and very high . . . there is better opening of matted stock . . . there is better opening of matted stock are eliminated . . . wet spots in the dried stock are eliminated . . . and in many cases overall production is greatly increased due to elimination of time losses.

**PROCTOR & SCHWARTZ · INC · PHILADELPHIA**

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★ The O. HENRY GREENSBORO
★ The SAVANNAH SAVANNAH
★*The TUTWILER BIRMINGHAM

**Air conditioned bed rooms!*

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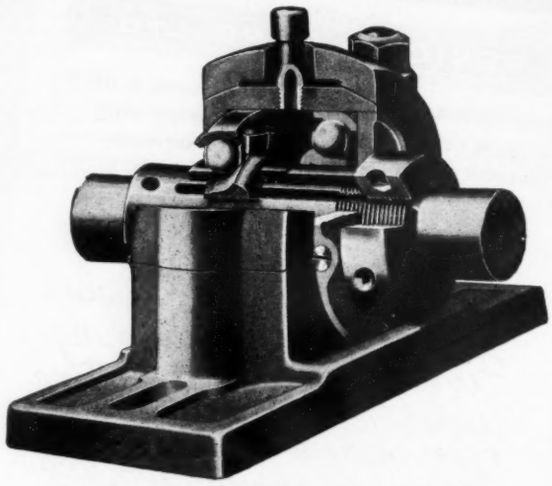
**Air conditioned bed rooms!*

**DINKLER HOTELS CO. INC.**
*Carling Dinkler, Pres. and General Manager*
OPERATING 3000 ROOMS IN SOUTHERN HOTELS

STANDARD PILLOW BLOCKS BALL AND SOCKET



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**TRANSMISSION CORPORATION**
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with private bath and radio

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Featuring Radio's Name Bands

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Time, money and labor can be saved by moving things with Fairbanks Hand and Platform Trucks.

They're smoother running, easier to handle, less fatiguing and last years longer.

Fairbanks Hand Trucks, for instance, are practically indestructible because the seasoned hard Oak, full-length handles are protected from wear by heavy steel straps on both front and back . . . and other parts subject to excessive wear can be replaced easily and inexpensively.

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*Write for catalog No. 51-52.*

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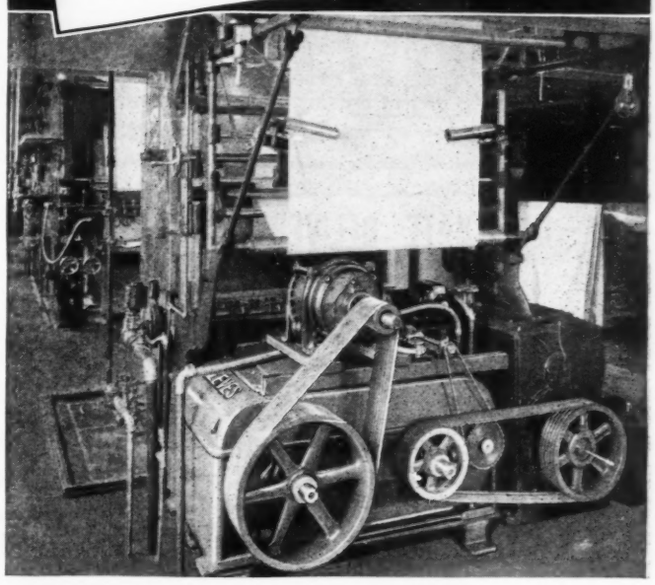
**18 East 4th St.** **New York, N. Y.**
Boston, Mass., Pittsburgh, Pa.—
Distributors in Principal Cities

**Fairbanks** PLATFORM, HAND and BOX TRUCKS



## ANY CLOTH SPEED between 10 and 60 yds. per minute . . .



### Means More Production for Our Armed Forces

This Morrison Duplex Sanforizer, in a large North Carolina mill working on Government cloth, is equipped with an automatic remote control REEVES Transmission for full-range speed adjustability. Any required cloth speed from 10 to 60 yards per minute can be had by pushing a button.

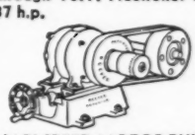
In addition to this speed flexibility, the remote control automatically stops the Sanforizer in slow speed position—eliminating the dangers involved in starting machine from high, or running, speed position.

REEVES variable speed drives are standard equipment on many types and makes of textile machines, and are easily installed on machines in service. Catalog-Manual TG-419 will be sent on request.

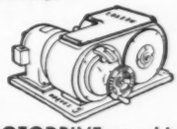
**REEVES PULLEY COMPANY**
**Columbus, Indiana**

3 BASIC UNITS

VARIABLE SPEED TRANSMISSION for infinite speed control over wide range—2:1 through 16:1. Fractional to 87 h.p.



VARI-SPEED MOTOR PULLEY for application to shaft extension of any standard constant speed motor; 3:1 range. To 15 h.p.



MOTODRIVE—combines motor, variable speed drive and gear reducer (if needed). Speed range 2:1 through 6:1; to 10 h.p.

**REEVES Speed Control**



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*for* OVER THIRTY YEARS

★ OPERATING METHODS
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★ COST METHODS
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★ SPECIAL PROBLEMS

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1—108 sp. Saco Lowell 4½" ring, high sp, 5½" gge, 7 ply, tape dr, belt driven twister.
2—120 sp. H&B 4" ring, 5" gge, 4 ply, band dr, belt dr twisters.
1—132 sp. Saco Lowell high sp, 3½" ring, 4½" gge., 7 ply, tape dr, 3/60/220 mtr (1924) twister.
1—132 sp. S. L., 3½" Eadie rings, 4½" gge., 9 ply, tape dr, 3/60/220 mtr (1924) twister.
28—256 sp. Fales & Jenks, 3" gge Spinners, tex rope dr.
43—256 sp. Fales & Jenks 2¾" gge Spinners, tex rope dr.
4—156 sp. Saco Lowell 7x3½ Speeders.
6—184 sp. Saco Lowell 7x3 Speeders.
8—Whitin D-2 Combers.
3—Whitin C Combers.

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*Over 16 years in textile mill machinery*
**29 W. 42nd St., New York, N. Y.**

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Two cotton textile mills, either separately or together, as going concerns, one of which is located at Jasper in Walker County, Alabama, and the other at Russellville in Franklin County, Alabama. The Jasper Mill has 12,896 spindles, all long draft, 182—40" Draper looms and 168—36" Draper looms, together with modernized preparatory machinery. The Russellville Mill has 13,344 spindles, 200—40" Draper looms and 86—36" Draper looms, 100 of which are dobby looms and 186 of which are plain looms, together with the necessary preparatory machinery.

ADDRESS INQUIRIES TO:
Paul A. Redmond, President,
Alabama Mills, Inc.,
Liberty National Life Building, Birmingham, Alabama.

## POSITION WANTED

Experienced cotton mill cost accountant available. Thoroughly familiar with mill operation and cost systems. Address Box 591, care COTTON, Grant Bldg., Atlanta, Ga.

## OVERSEER OF SPINNING

Overseer of spinning desires position, 13 years' experience in the mill on coarse yarns from 4's to 130's, single and ply. A-1 fixer on Whitin, Saco-Lowell and H. & B. Spinning Frames, also on Spoolers and Twisters. L. C. S. Graduate and good manager of help. Will go anywhere, but would prefer North Carolina, or South Carolina. Address Box 593, care COTTON, Grant Bldg., Atlanta, Ga.

**EATON AND BROWN**
*Patent Attorneys*
**1206 Johnston Bldg., Charlotte, N. C.**
**514 Munsey Bldg., Washington, D. C.**
*Paul B. Eaton, Former member Examining Corps U. S. Patent Office*

## Mill Executive Available

Cotton Mill Executive desires position immediately. Unusually experienced in every phase of yarn mill management. Adept in personnel, production, accounting and finance. Address Box 592, care COTTON, Grant Bldg., Atlanta, Ga.

## WANTED

Four experienced Card Grinders. Guaranteed pay 60c per hour. Mills now running 6 days per week, 8 hours per day three shifts. Additional compensation through bonuses.
**Granite Falls Manufacturing Co.**
Granite Falls, N. C.

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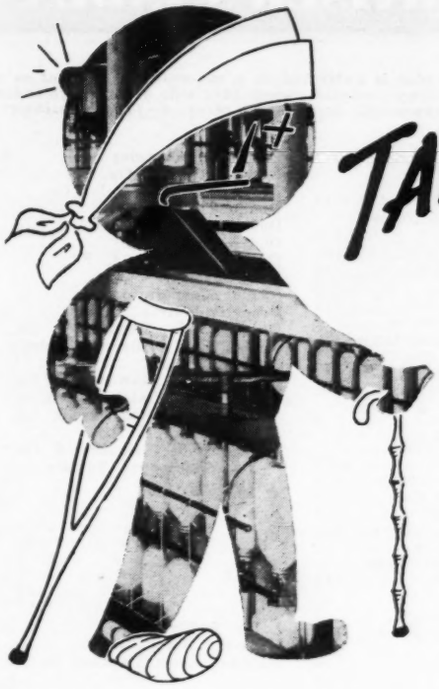
will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire to sell or buy some used equipment? Do you desire your business or professional card placed before the textile industries?

Why not try an advertisement on this page of COTTON? It's 12,500 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Note the rates above and send in your advertisement today.

**COTTON Grant Bldg., ATLANTA, GA.**



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There is no need for your textile machines to limp along at a lazy production rate. Get to the source of the trouble!

Remove parts that have become worn and inefficient from long use. Replace with Henderson's *better than original* replacement parts. Your machines will operate efficiently for longer periods of time because Henderson's parts are made to last under pressure. Weak points on some parts that failed too soon are made sufficiently strong on Henderson's parts. Precise machining of accurate castings assures true fit.

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THE STAB IN OUR BACK
AT PEARL HARBOR
*Buy Bonds!*

**Henderson Repair Parts**
FOR TEXTILE MACHINERY
HENDERSON FOUNDRY & MACHINE CO., HAMPTON, GA.

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**CANVAS**
**TRUCKS**

***For the well-equipped mill.***

**W. T. LANE & BROS., INC., *Mfrs.***
**Poughkeepsie, N. Y.**

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**DIAMOND ALKALI COMPANY**
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**Burkart-Schier Chemical Company has pioneered in the development and manufacture of penetrants and softeners for cotton yarns and fabrics. Constantly on the alert perfecting new chemicals and maintaining the quality of established lines, Burkart-Schier solicits your inquiries on problems in scouring, bleaching, dyeing and finishing of cottons.**

**BURKART-SCHIER CHEMICAL CO.**

BURK-SCHIER CHATTANOOGA, TENNESSEE BURK-SCHIER

PENETRANTS • SOFTENERS • SOLUBLE OILS • FINISHES

**Conserve them**

★ Belt efficiency and belt life are vital forces in the Battle of Production! Guard them, as thousands of plants have done since 1896, with Cling-Surface Belt Treatment. This easy, economical application gives effective, non-slip grip—permits lower belt tension—steps-up power—saves belts, bearings and shaftings. Ask about practical trial offer.

**Cling-Surface Company, 1036 Niagara St., Buffalo, N.Y.**

SPEED-UP PRODUCTION ★ REDUCE WEAR

*with* **CLING-SURFACE** *Belt Treatment*

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**Let a MILL MAN tell you about easy-starting rings!**

In the exact words of a South Carolina superintendent's letter:

*---"orders we had taken demanded the best of spinning and I needed new rings to get it — but it was summer weather. I was persuaded by your man to try a frame of DIAMOND FINISH rings. They started so well that I went right ahead with my replacement program amounting to several thousand rings."*

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# *A Report to the* CHIEF MORALE OFFICER

* * *

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